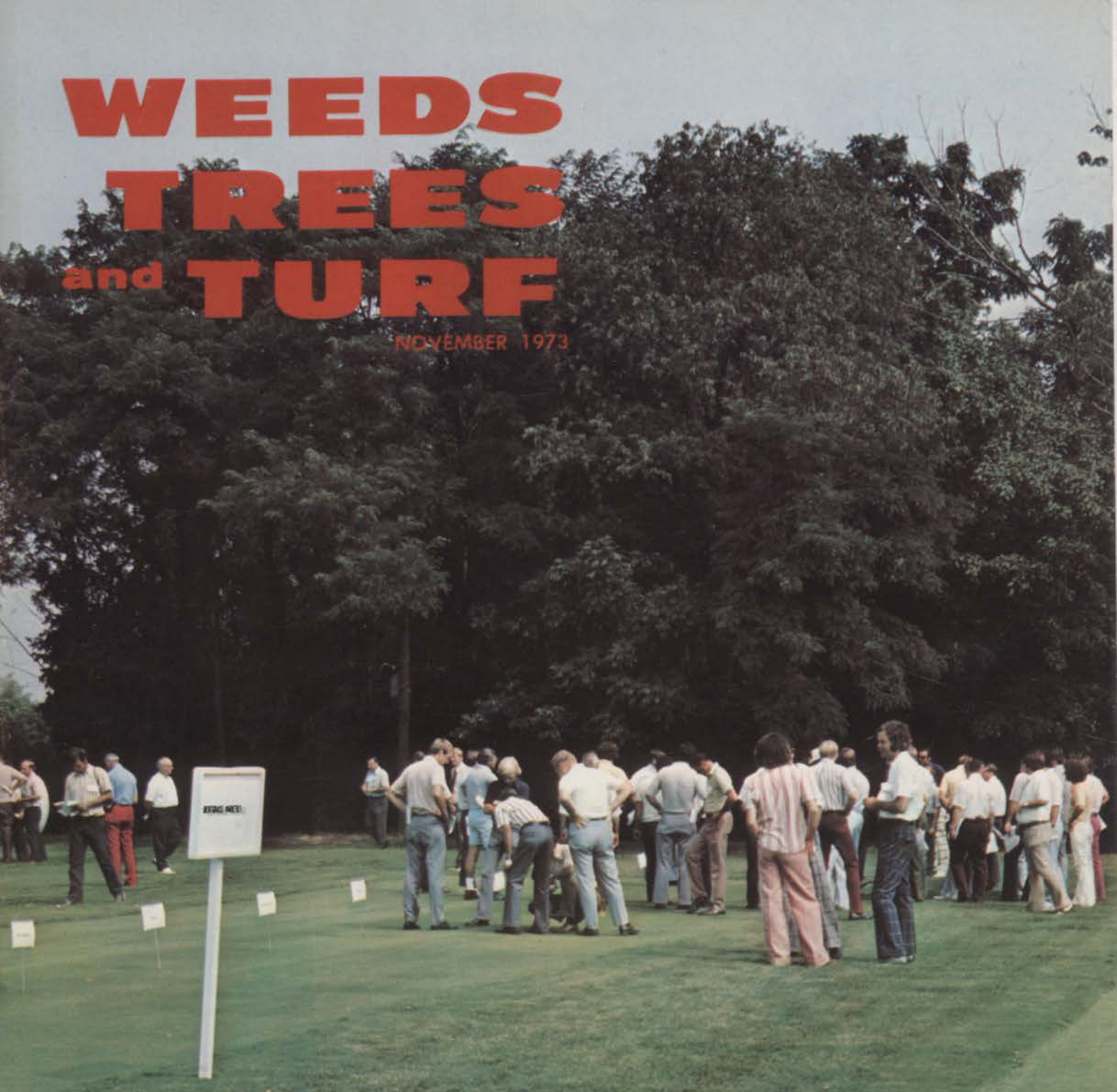
WEEDS TREES and TURF

NOVEMBER 1973



CHECKING SPECS FOR SPECIFICS

THE MISSING INGREDIENT IN 9 HOLE COURSES

SYSTEMIC TUREGRASS DISEASE

COST ANALYSIS OF WEEDS IN OREGON'S LANE COUNTY

Get rid of unwanted green growth before it cuts into your profits.

The weed onslaught is just about universal.

An expensive headache.

For utilities, railroads, highway departments, the petroleum industry and industry in general.

But there is a way to control that costly green tide—with Tandex® herbicide.

It's a urea-carbamate compound that gives outstanding extended control over a range of weeds and grasses.

But it's more than weed control.

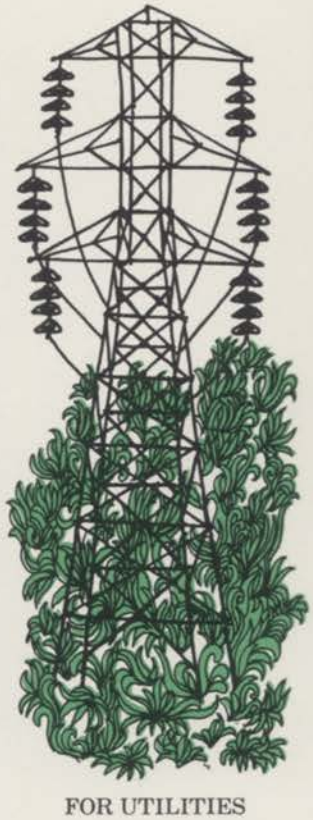
It's brush control, too. If you've got to get rid of really tough brush and woody vines, Tandex gets the job done.

You can spray Tandex or apply it in dry granular form.

Either way you use it, you'll control that costly green tide.

FOR INDUSTRY

FOR RAILROADS



FOR UTILITIES

FOR ROADS

TANDEX HERBICIDE

Agricultural Chemical Division
FMC Corporation, Middleport, N.Y. FMC

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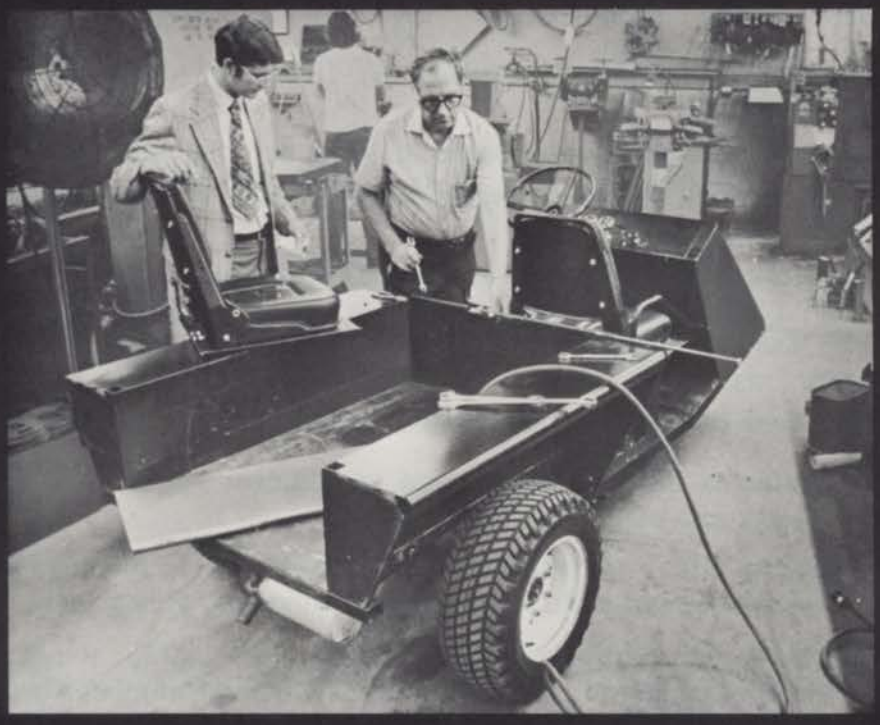
For More Details Circle (123) on Reply Card

Hold everything!



Toro has a utility vehicle on the way that's strictly utility. It's called the Workmaster, and it's got a price tag lower than you'd believe. Comes complete with hydrostatic drive, up-front seating for two, more drawbar pull than competition (that's what horsepower's all about), a longer, lower, heavier-gauge box, automotive steering, and that's not all. It's simple, rugged, reliable and easy to service — and one thing more. It's a Toro.

TORO® WORKMASTER

TORO WORKMASTER

Here's why the Workmaster is worth waiting for!

FEATURES AND BENEFITS INCLUDE:

1. **Heavy-duty industrial-quality hydrostatic drive** — for infinite speed control, instant forward/reverse, high torque to rear wheels for drawbar pull that surpasses competition. A closed, self-lubricating durable drive system as in our Sandpro and Groundsmaster 72. No gears to change, no clutch to slip.
2. **Up-front seating for two** — provides comfortable, safe seating for driver and one passenger.
3. **Ease of maintenance is engineered in** — you don't have to empty the box to get at the battery. All frequently serviced parts (like the spark plug) are easy to get at.
4. **Automotive controls and more leg room for operator** — front wheel returns to straight-ahead position when steering wheel is released. The Workmaster requires less learning time, gives greater security and comfort than competitive machines.
5. **Oversize rear tires** — for greater hill climbing ability and sidehill stability.
6. **Lower center of gravity** — long, wide wheelbase; low box bed-height for greater safety and stability, less lifting.
7. **High capacity box** — carries existing engine-driven top dressers and sprayers, and earns the name Workmaster on all kinds of hauling jobs.
8. **A price tag lower than you'd believe** — you don't pay for things you don't need. The Workmaster is plain and simple with heavy-duty design, construction and components.

GENERAL SPECIFICATIONS*

ENGINE: Kohler air-cooled, 4 cycle — 14 H.P. at 3600 R.P.M. — 23.5 foot pounds of torque at 2200 R.P.M. — 31.27 cubic inches of displacement — compression release — Stellite faced valves — positive rotators on valves — heat treated crankshaft — 12 volt electrical system

FUEL CAPACITY: 8 hour fuel supply

WEIGHT: approximately 900 pounds

BRAKES: 7" x 1¾" hydraulic drum brakes with parking brake on rear wheels — dynamic braking to the rear wheels through the hydrostatic transmission — optional hydraulic drum brake for the front wheel

GROUND SPEED: 0-10 M.P.H., infinitely variable

GAUGES: ammeter and fuel gauges standard — hour meter optional

LOAD CAPACITY: 1000 pounds plus operator

SUSPENSION: full spring suspension on all three wheels

TIRES: rear tires - 23 x 8.50 - 12 - 4 ply — front tire - 18 x 8.50 - 8 - 4 ply

PROPULSION: infinitely variable hydrostatic transmission coupled to an automotive type differential

SEAT: full side by side seating for two

BOX SIZE: approximately 3' wide x 4' long

OPTIONS: hour meter — front wheel brake — folding ramp-type tailgate — headlights

(Our competition's green with envy!)

*Specifications and design subject to change without notice.
Toro is an exclusive trademark of The Toro Company.

WEEDS TREES and TURF®

"Serving The Green Industry"

Vegetation Maintenance 10

Lane County, Oregon has developed solid cost data on what it costs for vegetation control on roadsides. Steve Puett, weed and brush control supervisor, discusses the county program.

Plant Parasite Of Turfgrass 12

Stripe Smut on bluegrass has been occurring with increased regularity. Dr. Joseph M. Vargas, Jr. of Michigan State University tells how the disease occurs and what superintendents and sod producers can do to help control this disease.

$400 Million For Pure Water 14

Construction projects which involve the Green Industry are as varied as the industry's many facets. In an effort to show the specifications of one type of contract, the Monroe County Pure Waters Agency has developed a restoration program. This could be used as a guide or checklist in devising your own specifications.

Nine Hole Courses 18

Do 9 hole courses need a fulltime golf superintendent? That's a question being asked throughout the country. In Iowa, the answer is yes. Read why Bob Burns and Bob Friis think that the superintendent is one of the most important people on a small course

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The Cover

Evaluation and Analysis. That's what it's all about. Turfgrass trials are an important and integral part of the background in becoming a commercial turfgrass superintendent. They also provide much valuable information for the sod producers. Our cover this month shows WEEDS TREES AND TURF readers inspecting turf plots at the Ohio State University turfgrass field day.

WEEDS TREES and TURF is published monthly by The Harvest Publishing Company, subsidiary of Harcourt Brace Jovanovich, Inc. Executive, editorial headquarters: 9800 Detroit Ave., Cleveland, Ohio 44102.

Single Copy Price: $1.00 for current and all back issues. Foreign $1.50.

Subscription Rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in the vegetation care industry and related fields in controlled circulation categories. Non-qualified subscriptions in the U.S. and Canada are $10.00 per year; other countries, $12.00 per year. Controlled circulation postage paid at Fostoria, Ohio 44830.

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Member
American Business Press
Business Publications Audit

ABP BPA

Volume 12, No. 11 November, 1973

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♦ For More Details On Preceding Page Circle (118) On Reply Card

EPA's Achilles' Heel

Like a fire in muck ground, the DDT episode has continued to smolder ever since the Environmental Protection Agency banned nearly every use of the insecticide in 1972. But events within the past 60 days have fanned the cinders into a small blaze that has every hope of reversing the EPA decision. The crux of the situation lies in the fact that the pine tussock moth in the upper northwest forests cannot be controlled.

Until a few months ago, EPA's first line of defense against DDT use in forests was a gut belief that a naturally occurring virus would cause tussock moth numbers of decrease. In addition, EPA officials in Washington—a great distance from the problem—have spread the word that substitute chemicals were being used.

Evidently these substitutes and the natural virus have not been too effective. Those who have seen this year's devastation have been appalled. In October, Interior Secretary Rogers C. B. Morton pledged his efforts to obtain DDT to fight tussock moth outbreaks on the Colville Indian Reservation in northeastern Washington. He said he would try to convince EPA Administrator Russell Train to allow the use of DDT on Indian lands.

Secretary of Agriculture Earl L. Butz addressed the Society of American Foresters in Portland, Ore. in late September. He mentioned the devastation of the infested area. "No one can tell me that either nature or man is better off for this insect epidemic," he said.

"The dying forests there are reminders that we were a little precipitous in banning the only effective control method before we had found effective substitutes," Secretary Butz said. "This is a classic case in which an emergency outraced the development of the substitute, leaving the forest completely unprotected in the interim."

He too extended his full support to seek "approval from the Environmental Protection Agency for making DDT available . . ."

A third big gun to enter the picture is a new book "The DDT Myth" by Rita Gray Beatty, a California housewife with a background in journalism and public relations. She points out that much of the damning "evidence" used against DDT was based on poor science, inept observations or downright deception. Her book is written for the layman, but is presented as a convincing defense plea for continued DDT use.

There is little doubt that this issue will pro-

(continued on page 37)

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Make the off-season your catch-up season.

Right now, with civic and recreation areas less crowded, is a good time to catch up on this year's projects and get a head start on the coming year.

You can plant new trees, remove dead trees, grind stumps below ground level, prune deadwood and large limbs from pedestrian paths, clear around streetlights, remove brush and growth encroaching on fairways.

This is a thrifty time of year to put Davey to work on your grounds. Programs can be set up to meet your budget requirements, and we can give prompt attention to your needs.

Now is the time to preserve the beauty and value of the trees on your property and, at the same time, ensure public safety at an economical cost. If you've got the projects, we've got the trained crews and specialized equipment ready to go to work. For estimates without obligation, find us in the Yellow Pages under Tree Service.

DAVEY TREE

KENT, OHIO 44240

Coast to Coast and Canada

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Government News / Business

Sod production and sod installation are agricultural enterprises, says the Department of Labor. The ruling was determined following conferences, briefs and personal contact by William Harding, an attorney on retainer with the American Sod Producers Association. According to ASPA president, Jack Kidwell, the ruling has significance in that OSHA obligations will be "much easier for members to meet. It is significant that the opinion from the Department indicates that sod installation is exempt only if it is also tied in with a sod production operation," he said. "Sod installation by itself if not performed jointly in production of sod could possibly be interpreted as being part of a landscaping operation which includes principally construction activities. Thus OSHA regulations would cover construction restrictions."

Thompson-Hayward Chemical Company is now a wholly-owned subsidiary of North American Philips Corporation. It had previously been a subsidiary of PEPI Inc. which in turn had been a majority-owned subsidiary of North American Philips. A company merger has simplified the operation. No change in operations is expected.

What we have done in this country during the past few years to provide for the protection of our environment "will count for nothing if progress and the constant striving for the highest standard of living is valued more than basic environmental balance and simple survival," intoned John R. Quarles, deputy administrator of EPA. He told the Magazine Publishers Association in October that the nation requires a radical transformation of the basic life processes in our society. But we must not abandon all technology and dismantle our factories, he said. "Like it or not, we will still be dependent upon our technology, and it has brought us great blessings. But we must now begin to differentiate between the blessings and the curses of technology."

American Garden Products, Inc. has signed a definitive agreement to acquire Perry's Plants, Inc. of La Puente, Calif. Perry's Plants is believed to be the largest grower of ground covers in the U. S. and a leading producer of flowering annuals. The acquisition will involve a consideration of $2.7 million in cash, $300,000 in American Garden common stock and contingent payments based upon future earnings of Perry's Plants.

This year about two percent of our natural gas was used to manufacture nitrogen fertilizer. This percentage will have to increase to three percent if the nation is to produce enough nitrogen for projected food for the nation and for export to help balance our trade deficit in the years ahead, says Malcolm H. McVickar, national manager, agronomy, Chevron Chemical Company. It takes about 33,000 cubic feet of natural gas to produce a ton of the type of nitrogen material used in fertilizer. McVickar estimates that by 1980 our needs will be for 80 percent more nitrogen than currently and 43 percent more phosphorus. "If we're going to have ample food in this country and continue to increase exports of farm commodities, we'll need huge supplies of fertilizer," he says. "There's no way to change that fact."

Hoffco Inc. of Richmond, Inc. has announced the acquisition of 51,000 additional feet of manufacturing and warehouse space for the firm. It will be used to meet the expanding marketing requirements for manufacturing and warehouse space.

Fylking - outstanding as its name!

Internationally tested over 12 years, Fylking has proven to be exceptional – exceptional as a mixer in any lawn seed mixture, exceptional in producing a thick turf. The dense rhizomatous root system knits itself together so weeds cannot penetrate. Low-growing, abundant tillering, fine textured Fylking has greater disease resistance and drought resistance. It greens earlier, is greener in summer, stays green longer into fall. Can be cut low as ¾ inch (even ½ inch) and thrive with less watering.
Check tests shown below:

FYLKING KENTUCKY BLUEGRASS
U.S. Plant Patent No. 2887

1. Comparison of Fylking (right) with another elite bluegrass plant.

2. Cross section shows thick, luxuriant turf, fine leaf texture and brilliant green.

3. 11-day seedling comparison Fylking and another elite Kentucky bluegrass.

4. Leafspot comparison of disease-free Fylking and other elite bluegrass.

Another fine product of Jacklin Seed Company

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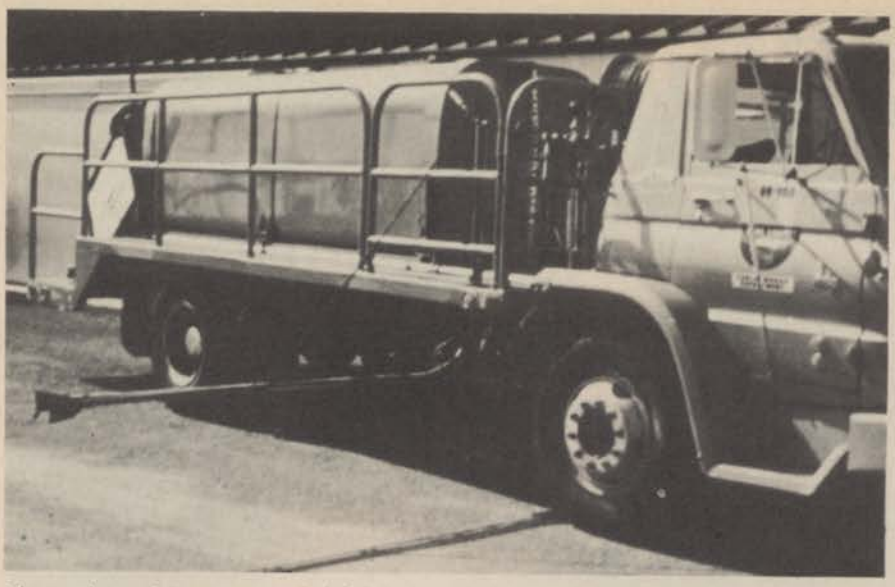

The tank on this spray truck holds 1500 gallons. It is equipped with booms and hose for hand spraying. The county also has a 2100 gallon and a 1450 gallon tank trucks.

LANE COUNTY ROADSIDE PROGRAM

Vegetation Maintenance What Does It Cost In Oregon?

By STEVE PUETT
Weed And Brush Control Supervisor
Lane County Dept. Of Public Works

THE COUNTY weed and brush control program in Oregon has shown the value of good program planning and persistent followup.

A high growth of brush or weeds along the edge of roads can cause a great many highway maintenance problems and accidents. The removal of brush and weeds makes the area look cleaner; it enables tourists to enjoy scenery that might otherwise be hidden. Wildlife, pedestrians and cars are hidden from motorists' sight by tall roadside brush and weeds.

By keeping drainage ditches clean, road maintenance costs are greatly reduced. Clean drainage ditches are important to both the Lane County Department of Public Works and to property owners whose fields are next to county roadways. Fire danger is, of course, reduced when weed and brush areas are removed.

There is also the added bonus of good will and co-operation between the Public Works Department and the people it serves.

PROGRAMS AND COSTS

Basically, our programs are divided into five areas: 1. Clear right-of-way of brush by mechanical means; 2. Basal or stump spray; 3. Foliage spray; 4. Correct drainage by mechanical means; and 5. soil residual spraying.

There are six full-time men on the spraying crew plus two temporary men during the summer months. The equipment includes 2100 gallon, 1500 gallon and 1450 gallon truck-mounted tanks with three 200 gallon pull-tanks.

Clear right-of-way of brush by mechanical means The cost of maintenance brushing with an eight-man crew using the air saw and brush chipper for top trimming is $834.92 per acre. Using the same crew and doing cutting on the ground with chain saws is $1,180.00 per acre.

Initial brushing for the first time, like new right-of-way clearing with the above crew and mechanical machinery, is $2,436.00 per acre. The county also has a BC-100 series brush cutter with two rotary blades which is mounted on a gradall. This machine is used on small brush species at a cost of $237.00 per acre.

Basal or stump spraying Brush cutting reports from zone foremen

(continued on page 16)

Stump spraying with 2,4,5-T and/or Banvel has been effective in holding regrowth in check. This maple stump has been treated with 2,4,5-T.

Foliage spraying around this bridge abuttment will keep berries and weeds from hiding the view by the passing motorist. Note dead canes above.

Wide open spaces...or tricky "obstacle courses"

Flex-A-Matic.

The gang that moves like a riding mower.

After extensive development and field testing of a self-propelled, maneuverable gang mower, Hahn presents the Flex-A-Matic 140. A great new concept in gang mowing that combines:

The finesse and handling ease of a small mower (45" turning radius) with a wide swath cut (11'8").

Your tractor can be tied up with other jobs, but you're ready to go . . . in places that big gangs can't manage. And the Flex-A-Matic also features:

Proven mechanical cable drives to reels • hydrostatic transmission for independent reel to ground speed • hydraulic lifts for all reels, standard • fast height-of-cut adjustment • quick disconnect reels • break away outboard reels.

See your Hahn distributor today for a test ride on the new Flex-A-Matic. Once you try it, you'll be sold.

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Stripe Smut
Plant Parasite Of Turfgrass

By DR. JOSEPH M. VARGAS, JR.
Assistant Professor
Department of Botany and Plant Pathology
Michigan State University

STRIPE SMUT caused by the fungus *Ustilago striiformis* is probably the most destructive disease of Kentucky bluegrass, especially such cultivars as Merion and Windsor.

Light yellow blades of grass are the first symptoms to appear. As the disease advances the leaf blades begin to curl and have black stripes running parallel up and down the length of the blades. Older infected blades will be twisted, curled and shredded from the tips down. If these black stripes are touched a black soot-like dust will rub off on to your hands. This soot-like dust is the spores of the stripe smut fungus.

The stripe smut symptoms most commonly occur in the spring and fall during periods of wet cool weather when the day temperatures are below 70°F and gradually disappear as the temperatures become warmer. However, while the symptoms are most evident during periods of cool weather very little turf is lost. Most of the infected turf is lost during the hot dry weather of the summer when the grass is under heat and drought stress or in open winters when the plants are subject to desiccation and cold temperature.

Stripe smut is a systemic disease which is perennial in the grass plant. Systemic means that the fungus is internal and can spread throughout the vascular system (veins) of the plant. The striping effect of the grass blades is caused by the fungus growing up the veins. Perennial means that once a grass plant is infected it will remain so for life although visual symptoms may not always be evident. The stripe smut fungus is able to survive adverse environmental conditions protected in the crowns of the grass plant where it can wait months or years for the ideal conditions to arrive before it becomes active again.

The stripe smut fungus can not attack through the foliage. It can only attack through the lateral buds on the crowns and buds on the rhizomes. Rhizomes arising from such crowns are also infected. This limited type of infection probably explains why the disease is usually only a serious problem on turf areas three years or older. For similar reasons the disease only becomes a problem in sod fields that have been in cultivation for many years where the spores of the fungus have had time to build up. These spores are resistant and can remain alive in the soil for many years.

There are several Kentucky bluegrass cultivars available today which are believed to be resistant to stripe smut. However, this resistance is probably only temporary because of the numerous races the stripe smut fungus can produce. (Races are different strains or varieties of the stripe smut fungus, capable of attacking different varieties of Kentucky bluegrass).

And once a Kentucky bluegrass becomes widely grown, a race of the stripe smut fungus which can attack it will probably develop. That is not to say these resistant varieties are not preferable to those already susceptible, but merely a word of caution of what to be on the look-out for in the future.

One should check with the turfgrass expert in his region to find out about suitable stripe smut resistant Kentucky bluegrass cultivars in his area and then blend three or four of these together. Blending should slow down the development of races of stripe smut which can attack these resistant varieties of Kentucky bluegrass and both the sod producer and buyer will be happier in the long run.

Stripe smut is an internal disease

(continued on page 46)

Stripe Smut: The Systemic Disease

Stripe Smut in bluegrass.

Close-up of Stripe Smut on individual leaves.

*Color photos courtesy of E. I. Du Pont de Nemours & Co. Inc.

Pennstar
Kentucky Bluegrass.

Perhaps the best all-around turfgrass available today.

Developed by Pennsylvania State University, Pennstar is strong in every category: disease and drought resistance, compatibility, persistence, ease of management, and adaptability. Here's why we call Pennstar the best improved bluegrass there is:

Highly resistant to stripe smut, rust and leaf spot. Stripe Smut sporulates in May or June, shredding individual leaves. Field trials show that, while Merion is quite susceptible, Pennstar is highly resistant. It's also highly resistant to rust: rated on a scale of 0 (best) to 10 (worst), test data give a 1.7 rating to Pennstar vs. 8.7 for Merion. University tests also show Pennstar to be significantly more resistant to leaf spot than some improved varieties.

Medium color, good density, easy to manage. Pennstar persists at moderate-to-low fertility levels. It doesn't over-react to higher fertility. Because of its decumbent growth, Pennstar can tolerate close mowing. It can withstand drought conditions better than some other Kentucky Bluegrass varieties. And, with its pleasing medium bluegrass color, Pennstar is ideal for blending with other varieties. In mixtures, it's neither too dark nor noticeably light.

No excess thatch after 11 years. Pennstar does not produce damaging quantities of thatch. In tests at Penn State, plots of Pennstar torn up after 11 years revealed no excess thatch. (No dethatching had been done in that entire period.)

What else do you want to know about Pennstar? If you'll send us the coupon, we'll give you complete information on perhaps the best all-around turfgrass available today.

Dennis Lee Wagner, Superintendent, Homestead Executive Golf Course, Spring Lake Heights, New Jersey

"You can really see the difference Pennstar makes. We've used Pennstar on fairways, greens and around the clubhouse and condominiums. Our results have been *very good* with Pennstar—it's held up real well with almost no fertilizing and very little watering. It's given us a real thick stand of grass, the color is a beautiful, lush green and I haven't noticed any disease at all. And people are saying that Homestead really looks like a golf course again."

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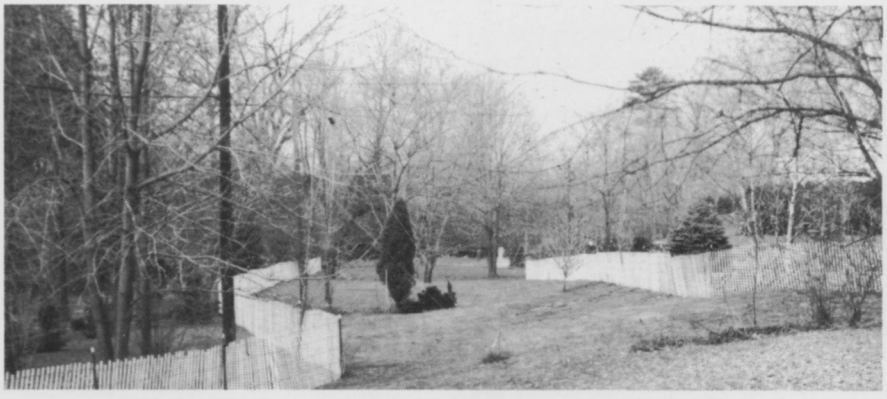
$400 Million For Pure Water

Editor's Note: We continually hear about the award of large construction contracts which directly or indirectly involve members of the Green Industry. With this in mind, we have presented here some of the work which is being accomplished in upstate New York on a large pure waters program. We hope that many of the specifications which have been implemented into this program can be used in other contracts where Green Industry firms are involved.

The County of Monroe, N.Y. — which celebrated its 150th birthday in 1971, is involved in what is probably the most advanced and largest pure waters program in the nation. It requires the laying of hundreds of miles of sewer lines, four huge treatment plants, tearing up streets, roads, curbs, lawns, and trees, all of which must be restored to their original state upon completion of each contractor's contract.



This is one of the areas prior to construction.

The same area during construction.

After construction and restoration, the area looked like this.

Following a recommendation of the then county manager Gordon A. Howe, officials in this western New York county had authorized a comprehensive study of the county's water in 1964 to determine what should be done to combat water pollution. Started in 1970, the cost of this program when completed in 1975, will be nearly $400-million.

Following the study, the Monroe County Pure Waters Agency was created and a plan prepared. The division of pure waters was created under the County Department of Public Works whose responsibility was to carry out the recommendations of the Pure Waters Agency and the County Legislature. The Division represents a partnership of Federal, state, and local governments and well-known contractors, to eliminate water pollution.

In the last twenty years alone, Monroe County population has grown by more than 225,000 to an estimated 720,000 people and the index of Rochester industrial production has increased nearly five-fold, all adding to the pollution crisis.

The County has been divided into four regional systems following drainage basins. Each is having a network of sewers built by contractors, which will eventually gather loads from smaller feeder sewers and carry the sewage to large regional treatment plants. The new or remodeled treatment plants will provide a minimum of secondary treatment of the wastewater. Under the Pure Waters Plan, four regional plants are now being built by contractors to handle the work now being done by 34 over-loaded sewage treatment plants. The four, when completed, will be able to do the job more effectively. The 34 plants will eventually be phased out.

Interceptor sewer and force mains are being built throughout various towns, villages and cities of Monroe County.

For More Details On Preceding Page Circle (119) On Reply Card

Monroe county's Pure Waters program is a 12-month-a-year construction feat, with many contractors continuing to work on their sites during the winter months.

RESTORATION IMPORTANT

During any kind of construction, especially of this size, there is disruption and inconvenience to people.

Every attempt has been made to minimize the impact of the ecology and maximum efforts are being made to restore the surface to its original state as contractors complete their cntracts.

Harold Bilow is Supervisor of Construction and Inspection for the Division of Pure Waters, and he and contractors have been working together to see that roads, streets, curbs, lawns, trees, and other surfaces disturbed by construction are returned to a normal state following each contract completion.

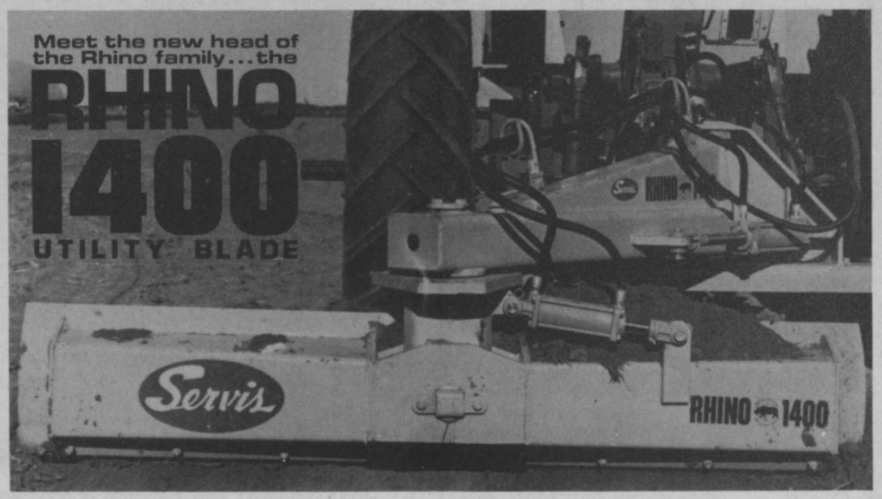
Grades, and surfaces, under the contractor's responsibility for restoration of surfaces, have to be restored so as to be equal to or better than the original condition which existed at the time they were damaged or disturbed as a result of work covered by the contract. None of the contractor's obligations are considered fulfilled until all restoration work has been approved by the Engineer and by public authorities having jurisdiction.

Where restoration of lawns, trees, shrubs, curbs, walks, roads, streets, etc. comes under the jurisdiction of town, county, state or other public authorities or public utilities, all work must be in accordance with the requirements of such authority.

Restoration of surfaces remain a "big" part of contractors responsi-

(continued on page 22)

Hundreds of miles of interceptor sewer lines were buried. Lawns, trees, curbs had to be restored to their original state.



Designed for Category II and III tractors of 90 hp and up, this new leader of the Servis RHINO family puts more than 1400 pounds of mass into every ditching, grading, and backfilling job. Optional hydraulics control (at a touch) the patented main frame rotation and blade tilt. The RHINO 1400 has an eight foot moldboard, and support stand for hitching. Adaptable for quick-coupler.

SUPER RHINO BLADE

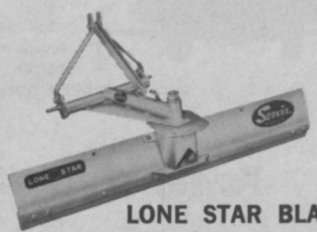
EXTRA HEAVY DUTY BLADE comes with thirty-six easy adjustments for angle, offset, tilt and pitch . . . without using a wrench! Four basic positions: standard, angled, reverse and extended. Takes on the toughest jobs with ease. Designed for wheel type tractors with 75 hp to 100 hp drawbar ratings, with either 3-point lift or 2-point fast hitch. Available in 7′ and 8′ moldboard lengths. Blade offsets 30″ right or left. Fits tractor Categories I and II.

BIG RHINO BLADE

HEAVY DUTY BLADE finds dozens of jobs to do. Whether it's cutting ditches or filling them in . . . smoothing, leveling or grading . . . this blade will be one of your handiest tools. For wheel type 3-point lift tractors with up to 75 hp drawbar ratings. Thirty-four complete adjustments for blade pitch, angle and tilt. Available with standard 7′ or optional 8′ moldboard. Blade offsets 30″ right or left. Fits tractor Categories I and II.

LITTLE RHINO BLADE

GENERAL DUTY BLADE is smaller — but plenty tough — and ideal for leveling and dirt moving, digging and covering ditches, as well as for roadway work and windrowing. Moldboard extensions are available for converting this versatile six-footer into a rugged 7′ blade. An optional 8′ blade is also available. For wheel type 3-point lift tractors with up to 55 hp drawbar ratings. Thirty complete adjustments for blade pitch, angle and tilt. Blade offsets 23″ right or left. For Category I only.



LONE STAR BLADE

LIGHT UTILITY BLADE is priced for popular demand. Designed for strength and durability, the Lone Star has 10 adjustments for angle of blade, 3 reverse blade positions and tilt adjustment. For wheel type 3-point lift tractors with up to 40 hp drawbar ratings. Blade offsets 12″ right or left. Standard width is 6′. Also available in a special 8′ wide model. All-steel welded construction. For Category I tractors.

WT11

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Johnsongrass can become a real problem on roadsides. Note how it is encroaching onto the highway above. We've tried a number of compounds for control. One new material that holds promise is Roundup, still an experimental herbicide.

VEGETATION MAINTENANCE

(from page 10)

and agencies determine the extent of stump spraying.

During the year, Lane County has a policy that requires all agencies cutting on county rights-of-way to obtain a brushing permit which reads in part: "All trees and brush will be cut down to stump level and the agencies will send a cutting report to the Public Works Department".

Hereafter, the spray crews stump spray all cut areas and continue to maintain the county right-of-way. This mutual co-operation between the different agencies and Lane County reflects a substantial savings to all parties as well as promoting good public relations.

The basal spraying program begins on a spot basis. During the foliage spraying program all dwellings, orchards and adjoining crops are skipped because of drift or volatility. Then those areas will be basal sprayed in the fall and winter months.

The basal or stump formulations are: one gallon of 2,4,5-T low volative ester brush killer, four pounds acid equivalent to twenty-four gallons diesel or Banvel brush killer oil soluble. Use one quart (one pound active) with two pounds acid equivalent of 2,4,5-T ester or four pounds acid equivalent of 2,4-D ester in 100 gallons of oil.

Again, it is very important to cover the plants or stumps with a chemical run-off. The cost of stump or basal spraying is $1.10 per stump or patch of brush.

Foliage spray As a prerequisite to any spraying program, an orientation session is necessary to familiarize the spray crew personnel with

Alder tree to the right above has been sprayed with 2,4-D and 2,4,5-T low volitile ester formulation. Motorists will be able to see around curve with tree out.

the objectives of the program. Formulations, pressure regulations and road spraying reports, together with the public relations and county spraying policies, are necessary to the program. Printed literature designed to explain the safety of the chemicals used is carried in the trucks with the spray crews.

A field survey determines the extent of the schedule and particularly a co-ordination of spraying with dwelling, orchards and adjoining domestic crops. This spraying starts about the first of May. In 1972, 1,014.4 miles or 3,550 acres were foliage sprayed at a cost of $25.01 per mile or 7.15 per acre. The foliage spraying is spot spraying of all weeds and brush within an acre. Were the job to be done by hand maintenance brushing crews, the costs would be $1,007.00 per acre.

The foliage spraying program, since its start, has reduced the number of brush crew personnel from 30 men to the 8 men who make up the spraying crew. They cut most of the brush on rainy days in each of the six zones. Each zone does some brushing, but this is minor.

Noxious weeds spraying programs begin in mid-May. Here, again, the program begins with a field survey and determination of the need. The county spraying crew sprays the noxious weeds on county-owned lands and rights-of-ways. Weeds such as Canadian thistle, poison oak, conifers, cattails, morningglory, Johnsongrass and Bermudagrass are controlled with Amitrol-T, 24D, Tordon, Banvel and others.

The basic foliage spraying formulation is one gallon 2,4-D/2,4,5-T low-volative ester brush killer, two pounds actual acid each, plus 8 ounces of X-77 Surfactant per 100 gallons of water. Spray is applied until plants are wet. We have also mixed one-half gallon odorless 170 with one-half gallon 2,4-D/2,4,5-T low-volative ester. This formulation has been very effective for our public relations program.

Around the first of August, 1½ gallons brush killer 170 or 2,4-D/-2,4,5-T low-volative ester in 10 gallons diesel and 88½ gallons water are sprayed.

In the winter months, the county uses Casaron G-10 at 50 pounds per acre. This chemical looks good on Canadian thistle, horsetail rush and morning glory. This should be used in the hard-to-control areas with heavy stands of weeds.

When spraying for weed and brush control, it is the policy of the county's Public Works Department to avoid the various native wild flowers, Oregon grape, and other natural attractive plants unless they obstruct the view of the traveling public or impair drainage in ditches.

Correct drainage by mechanical means When Lane County's maintenance crew reshapes and cleans ditches and slopes with the use of two graders, three dump trucks, one scoop, one water wagon, plus two flagmen, the cost is $381.00 per mile per year. The savings Lane County has had in grading gravel shoulders that have had soil residual chemicals sprayed on them is $9,000.00 per year. This means the grading operation is much faster without any vegetation in the shoulders; also, this reduces mowing costs which are 8-10 dollars per acre. These roads were to be mowed twice a year.

Soil residual spraying The first field survey of roads to be sprayed is made in January. The reports on soil conditions, weed and grass problems and topography of the road area are analyzed and the spraying program scheduled.

The soil residual program begins about February 1st. After the or-

(continued on page 20)

Teddy Temper

We can't do anything about Teddy Temper.

But if you've got surface-creeping broadleaf weeds we've got just what you need to get rid of them.

Chipco Turf Herbicide MCPP. It effectively controls Chickweed, Ground ivy, Knotweed and Clover. And it's kinder to fine turf grasses.

It helps keep your greens (and fairways) in the pink.

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From Rhodia Chipco Products.

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CHIPMAN DIVISION

"He's not just another duffer. He's chairman of the greens committee."

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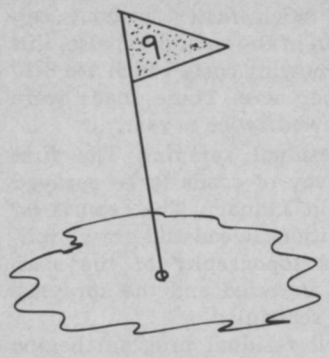


Nine Hole Courses
Do They Need A Fulltime Golf Superintendent?

GOLF COURSE superintendents are often a rarity on small, 9-hole courses. Many managers figure they can't afford this "luxury" with their relatively small budgets.

But in a growing number of cases this superintendent and manager line of reasoning is often dead wrong — many of these 9-holers can't aford to be *without* a superintendent.

"There's no question in my mind about it," says Bob Burns, who has managed a 9-hole golf course in Cedar Falls, Iowa, since it opened in 1965. "A 9-hole course needs professional management just as much as the bigger operations."

Burns, who was Iowa's "Superintendent of the Year" in 1972, manages the course at the Beaver Hills Country Club, a privately-owned golf and social club that was a 9-hole course until an additional 9 was added last year.

During its entire seven years as a 9-holer, Burns was employed as superintendent. And this is possibly one reason Beaver Hills was financially able to expand into an 18-hole course so soon.

Looks More Professional

"When you have a superintendent on these small courses, everything looks better — more professional," say Beaver Hills Manager Bob Friis. "And you get more members as a result. We've been at near capacity membership for the last few years because of the quality of our course, and this has enabled us to finance expansion programs much faster than we ordinarily would have. The program has been very successful."

Burns said he has always managed the course as though it was a big, major operation "within limits of our budget, of course."

The greens are mowed six days a week, cups are changed daily, fairways and tees are mowed three times a week, and roughs once a week.

In addition, Burns maintains complete disease and insect control and a professional fertilization program.

And his equipment is as complete and up to date as any you'll find on the larger country club courses.

"You don't get this kind of course maintenance when you just employ a parttime hired hand to maintain your course, which is often the case with 9-hole golf courses," Burns says.

"On these courses the greens often end up looking just like the fairways, the rough is out of shape, and the entire course is in a state of deterioration. And you'll often end up spending more in the end to shape things up again, and you'll certainly lose members to competing courses that are well kept."

Good Insurance

Manager Friis agrees: "When you take a look at that big initial investment in establishing a golf course and country club, you'll quickly realize that hiring a golf course superintendent is just sensible insurance to protect that investment."

Burns points out the extreme amount of technical knowledge necessary to properly manage a course today as a major point in favor of employing a professional superintendent.

"He must know turf grasses and maintenance techniques, soils, fertilizers, drainage, insects, turf diseases, fungicides, weeds, herbicides, and the tools and equipment necessary for modern turf maintenance.

"Sometimes it's even difficult for us to keep up with the different insecticides, herbicides, and fungicides and their proper usage," he says, "so I don't see how a parttimer can even begin to do it."

Environmentally Conscious

"In addition, many of these products must be handled professionally at all times. This aspect of golf course management is getting more critical every year."

Burn's biggest problem at Beaver Hills has been loss of elms from Dutch Elm Disease. Beaver Hills lies in a naturally wooded area — primarily elms — so tree replacement is an important part of his job.

He has worked up, on paper, a long-range landscaping program for the course which he says should solve most of the problems and enhance the beauty of the course when completed.

A member participation program for tree replacement was also initiated, with individual members buying a replacement tree, and, in turn, having it named after them.

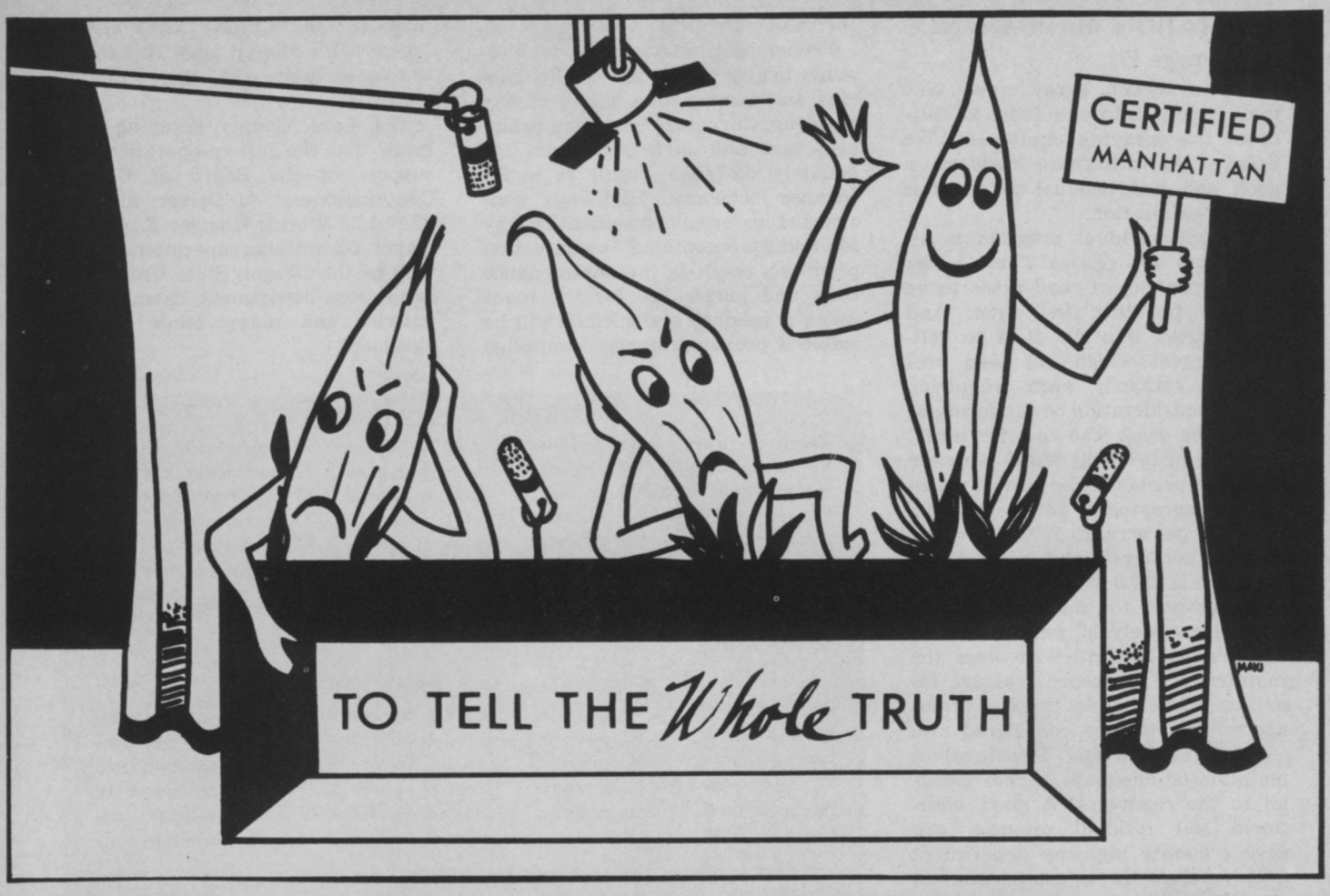
"This has worked great," Burns says, "and we've added 150-200 trees under this program so far. The members enjoy having a tree named after them."

Burns maintains an intensive control program against weeds, insects, and diseases such as: snow mold, dollarspot, brown patch, and others.

Because of this program, Beaver Hills has had no serious turf disease or insect problems since it began operation in 1965 . . . "a benefit of having a professional superintendent," Manager Friis strongly believes.

Burns says Beaver Hills is the envy of many other small course owners, who marvel at the condition of the course when they play there.

"Any course could look like this if they would come to realize that golf course maintenance is a specialized, technical job requiring trained men to get it done correctly," Manager Friis adds.□



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Manhattan perennial ryegrass is a fine textured perennial ryegrass developed by Dr. Reed Funk, Rutgers University. This new, improved, fine textured grass is genetically pure and great care is taken by Manhattan Association growers who plant only foundation seed stock. The seed is produced by members of the Manhattan Ryegrass Growers Association who agree to strict rules of growing, to protect the crop from cross-pollination and other contaminants.

The seed produced by these growers is closely watched and both field certification and seed certification are required before the seed is released to you, the customer.

Any seed bearing the name "Manhattan" but which does not carry certification tags may not be truly Manhattan. The variance could be drastically untrue of variety.

For your protection — buy only Certified Manhattan; why take a chance on imitations?

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VEGETATION MAINTENANCE

(from page 17)

ientation session, spray crews take their trucks into the field to calibrate the spraying equipment. We believe the difference between a good and bad residual program is proper calibration.

The soil residual program is divided into two phases. There is the initial spraying of road areas to be sprayed for the first time. And their trucks into the field to cali- of the areas which has been previously sprayed, each requiring special consideration of the formulation to be used. The cost for initial spraying in 1972 was $80.15 per mile or $26.72 per acre. The cost of maintenance spraying is $57.48 per mile or $19.19 per acre. In 1972, 39.6 miles or 118.8 acres received initial treatment while 637.0 miles or 1,911 acres were sprayed for maintenance.

Approximately 80 per cent of all maintenance activities involves the maintenance of proper drainage facilities. Three distinct types of drainage which must be considered are:

Roadside drainage: This involves maintaining adequate ditches parallel to the roadways. A good, well-timed soil residual program can save a county highway department money. Here is a comparison of costs for a spraying program versus county maintenance crews. It costs $381.00 per year to reshape and clean slopes and ditches. The cost of a spraying program is $68.76 per mile per year. The latter program eliminates the periodical cleaning of ponded or standing water. This water eventually saturates the subgrade of the roadway causing pavement settlement, slides and other undesirable conditions that cause considerable hazards to the motorist.

Road surface drainage: This consists of maintaining an adequate crown or transverse slope on the travelled way and shoulder areas. Surface areas which do not drain properly result in potholding, traffic safety hazards, and pavement breaking at the shoulder joint.

Cross drainage: This is provided by means of culverts and bridges and must be kept clear to provide protection to adjacent properties as well as the roadbed itself. The cost of a bridge and culvert soil residual program is .54¢ per structure versus hand cleaning of structures at $3.87 per structure. Plugged culverts can very easily result in loss of large roadbed sections.

Inadequate maintenance of drainage results in abnormal maintenance costs, traffic hazards and short life for road facilities.

Proper and economical maintenance begins during the location, design and construction stages of any highway. Curvature, gradient, drainage, base and surfacing, when adequately designed, result in maintenance economy. Highways constructed to proper specifications by following acceptable construction practices, result in low maintenance costs and longer life for the roadways. A roadbed and surface will be stable if proper drainage is supplied and compaction of materials is sufficient during construction.

A sound highway maintenance and soil residual program will result in better and safer roadways at a minimum cost, improved public relations and public acceptance of your road program.

The following soil residual formulations are used in the proportions shown below:

All of the above soil residual formulations are used in combinations and are used separately. Weather, soil and type of foliage within the area to be sprayed are factors which determine whether combinations or single products are used.

Keeping good records on all roads and County-owned lands is very important for a successful spraying program. It furnishes the statistics needed to analyze the cost benefits ratio, estimating cost and establishing budgets as well as permanent records for the data processing program for future reference. Records of all pesticides sprayed on county-owned lands are kept. The pesticide records have also proved beneficial in establishing responsibility in courts of claim.

In addition to this, there are two maps of Lane County using a map legend with colored pins. This shows the progression of the spraying program.

The Lane County spraying program has the full co-operation and support of the Board of County Commissioners: Al Driver, director of Public Works; Charles E. Angermayer, operatioins superintendent as well as the Oregon State University farm crops department, chemical industries and many other related agencies.□

INITIAL APPLICATION

Krovar I	80W,	6 pounds,	plus 6 ounces X-77 Surfactant/per acre
Karmex	80W,	9 pounds,	plus 6 ounces X-77 Surfactant/per acre
Hyvar-X	80W,	4 pounds,	plus 6 ounces X-77 Surfactant/per acre
Princep	80W,	9 pounds,	plus 6 ounces X-77 Surfactant/per acre
AAtrex	80W,	9 pounds,	plus 6 ounces X-77 Surfactant/per acre
Atratol	80W,	9 pounds,	plus 6 ounces X-77 Surfactant/per acre

If there is foliage within the area to be treated, two-thirds gallons Amitrol-T is added per acre.

MAINTENANCE APPLICATION

AAtrex	80W,	12 pounds,	plus 6 ounces X-77 Surfactant/per acre
Princep	80W,	12 pounds,	plus 6 ounces X-77 Surfactant/per acre
Atratol	80W,	12 pounds,	plus 6 ounces X-77 Surfactant/per acre
Karmex	80W,	12 pounds,	plus 6 ounces X-77 Surfactant/per acre
Hyvar-X	80W,	6 pounds,	plus 6 ounces X-77 Surfactant/per acre
Krovar I	80W,	9 pounds,	plus 6 ounces X-77 Surfactant/per acre

If there is foliage within the area to be treated, one gallon of Amitrol-T is added per acre.

WSSA Assoc. Membership Is Now Available

Specialized information on weed problems and their control is now available to associate members of the Weed Science Society of America.

This new membership classification is designed for anyone in applied weed control—chemical dealers or distributors, custom applicators, grounds maintenance managers, agri-fieldmen, regulatory officials, extension agents, farm managers and others.

Associate membership in WSSA will help those interested in practical and scientific aspects of weed control through the exchange of current information on new products and scientific developments.

Until now, only Regular Membership was available in WSSA. This category is open to anyone interested in weed control, but is primarily designed for research-oriented personnel.

Membership application forms and more details are available from the WSSA Special Office, 3123 Ligon Road, Raleigh, N.C. 27607.

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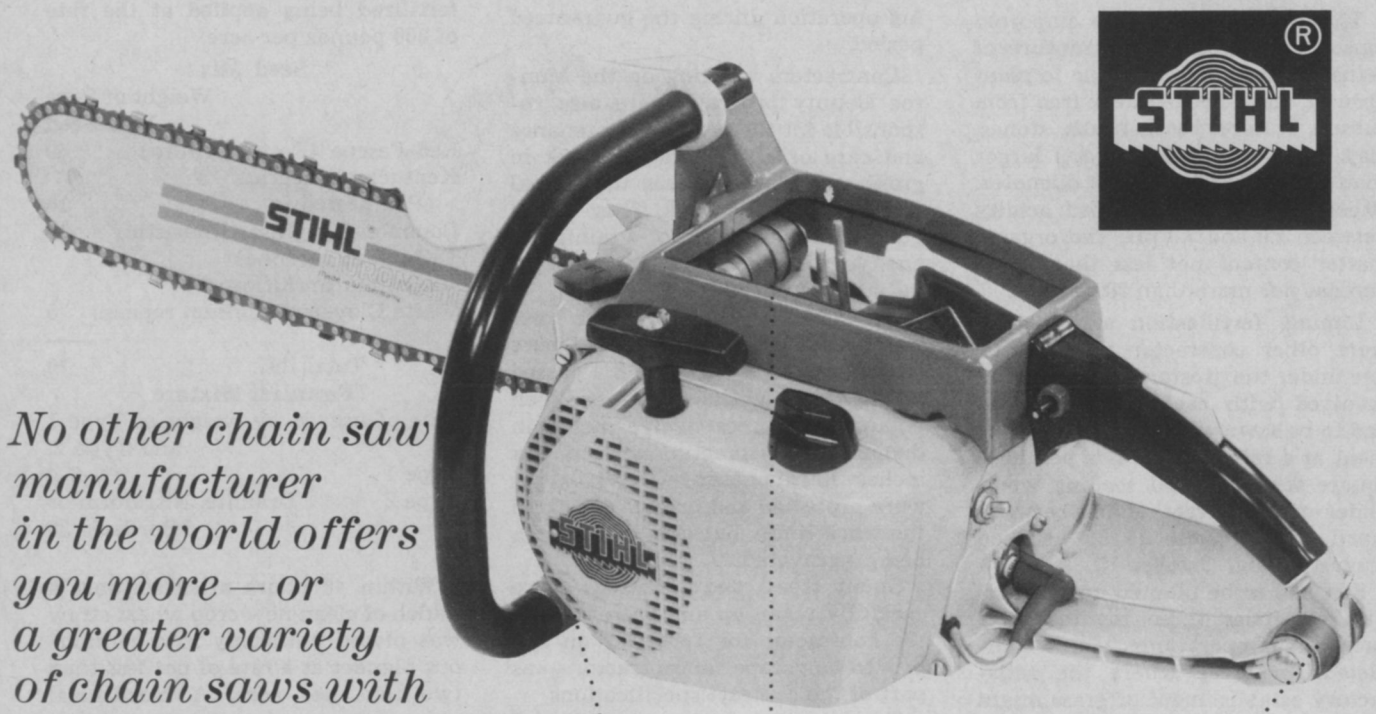
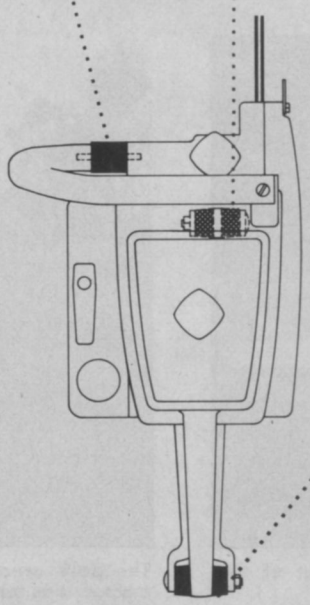


No other chain saw manufacturer in the world offers you more — or a greater variety of chain saws with AV anti-vibration systems.

STIHL was the first chain saw company in the world to introduce and manufacture an AV anti-vibration system on their saws – as far back as 1964 – and it has proven so reliable and popular with professional cutters, that we have had to make the AV system available in just about every saw in our line.

Our exclusive and patented AV anti-vibration system (as shown) consists of strategically positioned rubber shock absorbers mounted in the handles and body of the saw. They serve to practically eliminate vibrations from chain and engine and let you cut longer, with less effort and fatigue, and without unnecessary discomfort to your hands, arms and back.



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$400 MILLION FOR WATER

(from page 15)

bilities on the Monroe County Pure Waters project and grass and planted areas are no exception. All work in connection with the restoration of grass and planted areas had to be performed by an experienced landscape subcontractor, engaged and paid for by the contractor.

Topsoil is required to be used for the top six inches of backfill of trenches and excavations in grass and planted areas unless otherwise required by particular easement agreements. Topsoil must be approved topsoil obtained from excavation operations, or imported by the contractor at his expense.

The contract said that imported topsoil could contain no mixture of refuse or any material toxic to plant growth, and be reasonably free from subsoil, stumps, roots, brush, stones, clay lumps or similar objects larger than two inches in greatest diameter. Other specifications included: acidity between 5.0 and 7.0 pH; and organic matter content not less than three percent nor more than 20 percent.

Liming, fertilization and seeding were other contractor responsibilities under the "restoration" program involved with each contract. Seed had to be sown with approved equipment at a rate of 5-pounds per 1,000 square feet, with all seeding work, under the contract, done between April 15 and June 15 or between August 20 and October 15.

Sod had to be planted on residential properties three months after backfilling operations were completed. In areas where the satisfactory establishment of grass might be difficult due to steep slopes, drainage flows, etc., the Engineer could order sod be planted.

Plantings and shrubs that couldn't be protected in their original locations had to be removed by careful excavation and balling the roots in burlap. Plants and shrubs were required to be stored in protected areas and given ample water to keep them in a thriving condition. As soon as possible after construction operations moved ahead, the plantings and shrubs were to be set back in their original location.

SAME AS BEFORE

The contractors were also obligated to replace with the same species and size any plantings and shrubs that fail to survive the moving operation during the guaranteed period.

Contractors working on the Monroe County program were also responsible for the proper maintenance and care of all restoration work in grass and planted areas until final acceptance of the work. They had to guarantee their work for a minimum one year period from the date of initial acceptance.

Permision to trim or remove trees was needed in unpaved areas where trenching or excavation passed through residential sections. When obtained, all trees twelve inches in diameter — sometimes even six inches in diameter — and larger were protected and preserved within the work limits but outside the area being excavated.

Small trees, and plantings were carefully taken up and preserved by the contractor for reuse by an approved landscape subcontractor — as part of the contract specifications.

Topsoil, too, was removed and stockpiled separately from other excavated materials, for reuse as part of the restoration.

Landscape contractors hired by contractors on the Monroe County Pure Waters Project followed the restoration "specifications" as outlined by the Division of Pure Waters, for seeding, mulching, sodding and other activities.

For example, except in open farm areas under cultivation, all disturbed open and wooded areas, on slopes of less than one vertical to four horizontal, were treated with a mixture of fertilizer and seed using the Hydro-Seeder of the Finn Equipment Company, or other approved equipment. Seed had to be sown at the rate of 70 pounds per acre, with fertilized being applied at the rate of 800 pounds per acre.

Seed Mix

	Weight of Pure Live Seed
Red Fescue (Festuca rubra)	40
Kentucky Bluegrass (Poa pratensis)	10
Common Ryegrass (Domestic) (Lolium perenne) (Lolium multiflorum)	15
White Clover (Trifolium repens)	5
Total lbs.:	70

Fertilizer Mixture

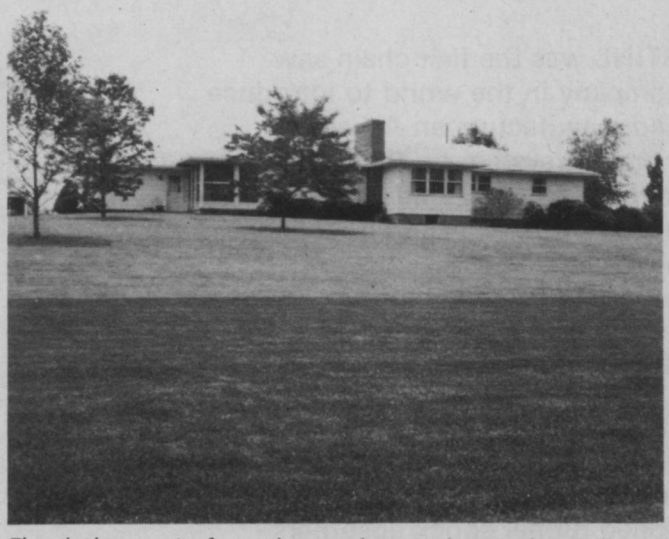
Rate of use: ½ by weight of Type 1 and Type 2.

Type 1	10-6-4
Type 2	Uramite, Nitroform or Borden's 38

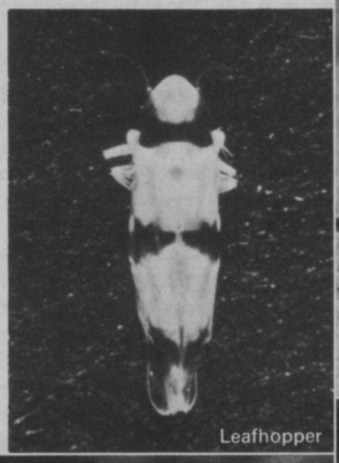
Within 48 hours after seeding, a mulch of clean new crop wheat straw was placed uniformly in a continuous blanket at a rate of not less than two tons per acre. A mechanical

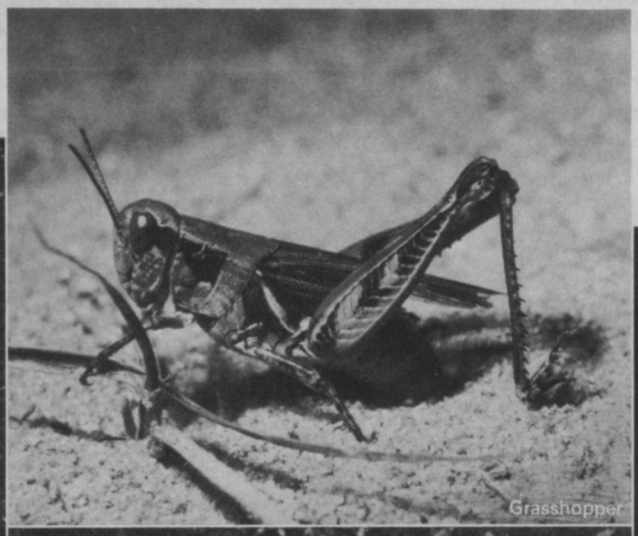
(continued on page 24)

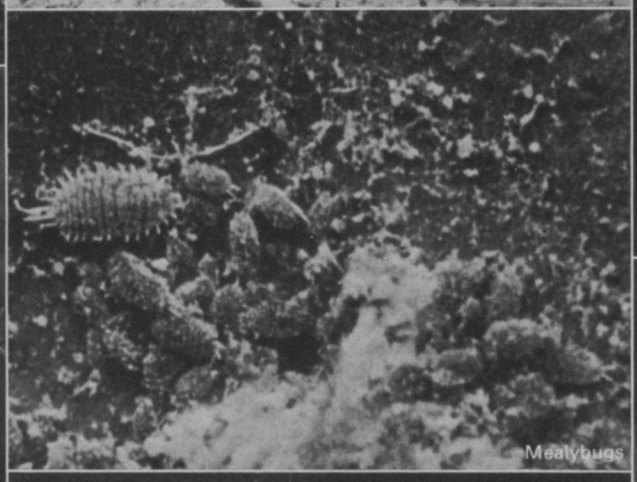
This tree was planted on private property as part of the restoration program.



The dark area in front shows where sod was placed. Contractor was responsible for restoration.







Ag-Organics Department, Midland, Michigan 48640

These are only seven of the turf and ornamental pests Dursban controls. If we had more space, we could show you another seven. Like sod webworms, brown dog ticks, earwigs and Hyperodes weevils in turf. Or ornamental plant pests like mites, spittlebugs, exposed thrips, white flies and many more. But our point is, DURSBAN* insecticide is the choice of professional lawn spraymen when they need to get the job done. DURSBAN insecticide is effective on a wide variety of insects—including resistant strains. And it's effective in a wide variety of applications. It's economical because a little goes a long way. It's non-phytotoxic, and it is biodegradable. So, if you haven't tried it yet, it's about time you did. Just remember to read the directions for use and follow the precautions for safe handling on the product label.

*Trademark of The Dow Chemical Company

DOW*

DOW CHEMICAL U.S.A.

For More Details Circle (124) on Reply Card

This area was seded and covered with straw following placement of the sewer project. Contractors followed standerd seeding specifications to restore site to the original state.

$400 MILLION FOR WATER

(from page 22)

blower was sometimes used to apply mulch. However, the Division of Pure Waters would not allow machines which cut mulch into short pieces to be used.

In regards to liming, fertilizing and seeding for grass and planted areas torn up by the sewer project and replaced with topsoil, landscape contractors found that all areas to be seeded had to be disced or otherwise loosened to a depth of two-inches and raked to true lines, free of all unsightly variations.

Topsoiled areas were rolled with lawn roller and all low spots leveled up. Based on a minimum of three representative soil samples, raw ground agricultural limestone was applied. Limestone was worked lightly into the top 2 inches of the soil. Commercial fertilizer, 10-6-4 was applied at the rate of 25 pounds per thousand square feet, again worked lightly into the top 2 inches of the soil.

Seed used for grass and planted areas was:

Species

50% Creeping Red Fescue (Illahee Strain)
30% Kentucky Blue Grass
10% Redtop (Fancy re-cleaned)
10% English Perennial Rye

A mulch of clean new crop wheat straw was placed uniformly in a continuous blanket to provide a cover of 3-inches, loose depth.

Any damage to existing stream or channel beds and banks and any distruptions to flow had to be repaired and restored. Rip-rap paving on some creek crossings were constructed of durable field or quarry stone, each shaped as nearly as possible in the form of right rectangular prism. The stones had to be laid perpendicular to the rip-rap bed.

The length of a trench opened through most areas, including residential property, couldn't be longer than 3 structure-to-structure runs or 500 feet, whichever was less.

In regards to pavements torn up during the course of construction activity, contractors were required, as part of "restoration", to replace the pavement with the same quality, thickness, bearing capacity and surface finish.

Sidewalks being replaced by contractors had to extend to the nearest contraction joints or expansion joints, with all sidewalks provided with a minimum 6 inch base course of approved granular material.□

Wider Use Of White Amur Sought By Two Fla. Solons

Two Florida legislators say the time has come to stop testing an Oriental weed-eating fish in isolated ponds and start using it to help clear vegetation that's clogging state waterways.

Representatives Bill Fulford, Orlando, and William J. Rish, Port St. Joe, called for the release of the white amur — a fish from the icy waters of Siberia — after viewing the results this week of a University of Florida research project in Orange county.

The tests are being conducted by the UF's Institute of Food and Agricultural Sciences in cooperation with the U. S. Department of Agriculture and the Florida Department of Natural Resources.

Fulford, who is chairman of the House resources committee, charged there has been too much "official foot-dragging" over when the fish should be released to control submersed hydrilla vegetation in lakes and waterways.

"Some biologists have expressed concern that the amur will get out of hand and end up being more of a nuisance than the waterweeds themselves. But research indicates the amur will control hydrilla without affecting desirable underwater plants like vallisneria (commonly called eelgrass)," he said.

Rish, accompanied by a group of commissioners from Bay county, said he wants the fish released in Deerpoint Lake near Panama City to control the rapid growth of hydrilla "which has just about ruined this lake for recreational purposes."

He said conventional mechanical control methods have been ineffective, and chemical controls will not control submersed weeds either. Even if chemical controls did the job, they can't be used because the 3,000-acre lake is a source of drinking water for Panama City, he said.

Dr. Al P. Burkhalter, coordinator of the Department of Natural Resources' aquatic plant research program, Tallahassee, agreed with the legislators. "The amur has more potential as a control for aquatic weeds than anything we've seen in the last 15 or 20 years. It's time now to get it out of our experimental ponds into more natural situations to find out what we can do with it," he said.

Dr. David L. Sutton, assistant professor with UF's Agricultural Research Center, Ft. Lauderdale, said the fish is already being used in Arkansas to control submersed waterweeds without any undesirable or unforeseen side effects on other fish and plants.

His research, suported by $75,000 in grants from the Rockefeller Foundation and the Department of Natural Resources, has convinced him that a trial release of the fish into a few land-locked lakes in Florida "will not be something we regret later on."

We've tested the amur on all sorts of aquatic plants, with many different types of fish, and we're almost certain the amur will have no adverse effects on sport fishing or the overall aquatic environment," Sutton said.

Load It With Logs... Then Chew 'Em To Chips

Here's a powerful, all-hydraulically operated unit that fits right in with today's modern emphasis on environmental control... Vermeer's New 671 Log Chipper. Eliminates tree and log disposal problems quickly and economically. Load it with logs, old lumber, railroad ties, decayed telephone poles; then chew 'em to chips in minutes for valuable mulch, bedding, ground cover, erosion control, etc. The 671 Log Chipper... great for cities, parks, landscapers, contractors, utilities and tree service firms everywhere. Write for more information and complete literature. Better yet, ask for a free demonstration.

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For More Details Circle (115) on Reply Card

He pointed out that the fish is native to Siberia and requires swiftly moving cold waters to reproduce. He doubts the amur will ever be able to reproduce in Florida's warm waters, which makes it more attractive as a natural or biological control agent for hydrilla.

The floating water hyacinth is not a part of its preferred diet, but the fish will consume this weed as a last resort, he said.

Sutton explained the UF research project near Orlando involves four ponds which are planted with several types of desirable and undesirable plants, including the troublesome hydrilla. In the control pond (with no amur), hydrilla grew rapidly to problem proportions, crowding out desirable plants. But in the three ponds stocked with amur, the hydrilla has been controlled proportionately to the number of amur they contained.

He estimates 25 to 50 amur would be needed to control each acre of submersed vegetation, but the actual number would depend on the amount of waterweeds and the size of the fish.

Sutton's research indicates the amur will consume about two and one half times its body weight daily, gaining from three to twelve pounds a year. It can reach weights of sixty to one hundred pounds before dying of natural causes.

He added that the fish is a welcome source of food in China and southeast Asia, and it's being introduced as a fish for aquaculture in Europe.

"It resembles Florida's mullet, tastes a lot like catfish, and will strike artificial lures, offering some possibilities for sport fishing," Sutton stated.

Shipping Infected Nursery Stock Injures Credibility

Incidents of disease and insect infected nursery stock being shipped across state lines even though a state inspection certificate has been issued have been reported by the American Association of Nurserymen.

In a recent speech to the National Plant Board, Dean F. Lovitt, chief of the plant industry division of the Michigan Department of Agriculture, attributes blame for this situation not only to state regulatory officials but to the nursery industry as well.

"In recent years," says Lovitt, "we as regulatory officials have become distracted and preoccupied by such national issues as USDA reorganization, the APHIS budget, the pesticide flap, pesticide control, FEPCA, OSHA, Federal quarantine rescissions and other such problems that the discharge of our responsibility to the nursery industry and to its customers has continued on its own momentum with only an occasional nudge from us.

"Likewise," he continued "I submit that the industry has been distracted and preoccupied by some of those same developments and by the need to supply an expanding market in the face of such problems as escalating costs, transportation and marketing complications, taxes and associated situations."

He cited several incidents of infested nursery stock being shipped into Michigan. He indicated that these infestations were clearly obvious, and should have been readily seen by any inspector or nurseryman . . . if he had looked at the plants.

Although there is clearly a problem, Lovitt indicated that it is not yet widespread. "We seldom have problems with shipments of stock from many states and many nurseries. It is interesting that in those states where there apparently is a lack of regulatory capacity, certain nursery firms can always be counted on to deliver stock that lives up to the inspection certificate. Those are not the nurseries that regulations were created for," states Lovitt.

To better understand this problem and help find practical solutions, Mr. Lovitt suggests nurserymen give serious attention to "credibility of inspection certificates."

"The American Association of Nurserymen believes the problem of improper certification of nursery stock needs review," says Ray Brush, AAN administrator, "and Mr. Lovitt's suggestion is appreciated. We plan to explore it further with the AAN Quarantine Committee when it meets in January. At that time we will review the various points to be made on the subject and consider a nursery industry panel to meet with the National Plant Board at its next meeting."

This year give a living tree from the fresh green land of Oregon. That's the attention getting line on a self-merchandising display stand developed by Oro-Green Nurseries, Inc., Boring, Ore. The company specializes in nursery stock for patio, deck, and landscape. New sales and marketing manager is Donald E. Lloyd. They developed the stand idea and another to sell one-gallon tree containers holding a tree and all packaged for the U.S. Mail.

Green Industry Newsmakers

PEOPLE PLACES EVENTS

Robert F. Lederer, exec. VP of the American Association of Nurserymen, talks with Dr. Richard P. White, (r) former AAN exec. VP about a comprehensive history of the nursery industry. White authored the manuscript which is to be published.

From tree limbs to wood chips. That's what West Mifflin, Pa. street commissioner Francis J. Horn is doing with branches from trimming jobs. He gives the chips to the citizens for use as mulch. Previously, brush was burned. Horn uses this M-B Chipper because it has no flywheel, instead, a spring-supported feed plate that adjusts to various wood sizes.

William T. Miller, (r) president of Richmond Battery and Ignition Corp., Richmond, Va. and pres. of the Engine Service Assoc. presses hands with Herbert V. Kohler, Jr. board chairman of Kohler Co. Miller accepted a plaque for his company's achievements as a centennial distributor of Kohler engines.

William F. Sell & Son, Taylor, Mich. has been named winner in the Bolens sponsored contest for floor displays. His display is shown above. The Outdoor Power Equipment Div. of FMC Corp. also named branch winners. Included are: Sherer Enterprises, Burnsville, Minn.; Sell for Michigan; Balks Small Engine Repair, Dodgeville, Wis., and Strieter, Inc., LaPorte, Inc.

For More Details On Following Page Circle (106) On Reply Card

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JD301-A Tractor

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50
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JD302 Tractor

JD302 Utility Loader

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JD401-B Tractor

JD401-B Utility Loader

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There are more than 20 options to choose from, too. See the new John Deere lineup, today, at your John Deere dealer's. He's listed in the Yellow Pages. John Deere, Moline, Illinois.

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Backhoe Loaders • Bulldozers • Landscape Equipment

JD300-B Loader

JD300-B Loader/Backhoe

JD302-A Loader

JD302-A Loader/Backhoe

JD401-C Loader

JD401-C Loader/Backhoe

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Just like our new lineup of utility machines, John Deere Finance Plans offer a lot of options, too.

We offer a variety of basic purchase, rental and lease plans which we can tailor to meet your specific needs. For example, you may buy a machine with a low down payment in cash, trade-in, or equity you have built up in another machine you own. We also allow skip payments to help you through your low-income periods.

If you wish to rent a machine, you may do that, too, for up to six months. At any time during or upon expiration of the rental period, you may arrange to buy. Your rental payments will have been working toward the down-payment.

Or, try our R. V. Leasing program. Under this plan, you may lease a new utility tractor or loader for one, two, or three years. Your payments are based on the initial price of the machine minus the predetermined resale value when your lease ends. Your lease payments cover only the cost of using the equipment.

Our Standard Lease Plan lets you lease equipment for periods of varying length, and you can schedule payments on a monthly, quarterly, semiannual, or annual basis—depending upon your equipment needs.

See us now. We'll give you all the details about our new utility lineup—and about our finance plans.

John Deere JDFP Finance Plans

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industry people on the move

LAWRENCE W. BAKER becomes manager of nitrogen products for Atlas Powder Company. He has responsibility for coordinating national marketing plans for ammonium nitrate, ammonia urea and nitric acid to the agricultural and chemical industries.

* * *

ROBERT L. GLIDDEN, elected president of the Farm and Industrial Equipment Institute (FIEI). He is also president of Kewanee Machinery & Conveyor Co., Kawanee, Ill.

* * *

RAY SASEEN, appointed a ProTurf Division technical representative for O. M. Scott & Sons. He leaves a position of golf course superintendent at LaVida Country Club, Savannah, to take the post.

* * *

DELBERT R. PETERSON, becomes area sales manager in the southwest region for the fertilizer and mining division of Stauffer Chemical Company.

* * *

RICHARD O. SCHADE, named technical consultant with Perma Rain. He was a project manager with the United Nations Food and Agriculture Organization.

* * *

JEFFREY SMALE, joins the Outdoor Power Equipment Division of FMC Corp. as advertising supervisor. He will work in the area of product promotion including advertising and public relations.

* * *

F. HARRY WHITE, appointed manager, market development for turf, lawn and garden seeds at Oseco Limited, Brampton, Ontario.

* * *

WARREN K. LERFALD, named district manager for the southeast U.S. for the consumer products group of The Toro Company.

* * *

JOHN McCAVITT, promoted to the newly-created position of vice president, landscape and turf irrigation division for L. R. Nelson Corporation. He was sales manager, turf division.

* * *

THOMAS CHRISTY, JR., appointed vice president of sales and marketing for R & G Sloane Mfg. Company, Inc. He will oversee the national sales and marketing activities.

* * *

GERALD (JERRY) ROHRER, becomes vice president and general manager of Fleco Chemical Products Co., Inc. He will be in charge of marketing and sales and will direct other operations of the company.

* * *

PAUL STEINBRECHER, to national marketing manager for the Hopkins Agricultural Chemical Co. He will be responsible for national sales of all Hopkins formulated products and will coordinate custom formulating.

* * *

FRED J. COSTELLO, named vice president of sales for Lockwood Corporation. He will be responsible for all domestic sales activities of the manufacturer of specialized farm and irrigation equipment.

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Loss Of Sight No Barrier To Minnesota Equipment Dealer

Edwin Riege sees nothing unusual about his decision to start his own business at the age of 46. "It has been a lifelong ambition and I made up my mind. There was no reason to delay any longer," he says simply.

But there are a few things that make his venture into private enterprise out of the ordinary. Riege is blind. And the type of business he is entering would seem to present inordinate challenges.

He is about to become a service dealer for The Toro Company. Riege's company will sell and service powered lawn mowers and snow removal equipment and sell miscellaneous tools and hardware.

Toro has no other service dealers who are blind and Riege may well be the first blind person in the nation to operate such a business.

His company, Ed's Engines, Parts & Supplies, Inc., occupies half of a single-story building on the main street of North St. Paul, one of the oldest suburbs of the Twin Cities.

Riege concedes that making a success of his business will not be easy. But he's optimistic. "Toro has a good reputation, especially in this region," he said. "I sold two machines, even before opening."

Indirectly, Riege has been preparing for a career as a sales-oriented, independent businessman since he lost his sight in 1966 from detached retinas, which resulted in the removal of one eye and total blindness in the other.

After losing his sight, he completed a seven-month training program operated by the Minnesota Society for the Blind, a course in political science from the University of Minnesota Extension Service and studied business administration for a year at Lakewood State Junior College. He also spent 3½ weeks in training with a guide dog with Seeing Eye, Inc. in Morristown, N. J., after which he returned to North St. Paul with his dog, Poppins, who has given him "expanded mobility."

Riege had planned to return to Lakewood but had difficulty obtaining needed text books and decided, instead, to seek employment, his first since losing his vision.

Since October, 1969, while working with the mortuary, he also completed a Dale Carnegie course and was elected vice president and program chairman of the North St. Paul Lions Club.

"When I decided that I was ready to go into business for myself," Reige recalled, "I had a long talk with the manager of the local Chamber of Commerce.

"We considered a number of things, including a telephone answering service. Most of the ideas seemed mundane until we learned that the town needed a shop providing parts and repairs for small engines. That appealed to me. I had always been handy with tools and I had worked for 17 years with a wholesale hardware company where I learned a few things about inventory control and pricing."

After he decided hardware was the business for him, Riege called Minnesota Toro, Inc., the distributor for Toro products in this area.

Riege attended a recent meeting held by the distributor to introduce the 1974 line of Toro consumer products. "I've never seen anyone so enthusiastic," observed Charles Leonhart, distributor sales representative. "He climbed all over every piece of equipment and asked more questions than anyone."

Initially, Riege's company will have only two full-time employees, himself and Floyd Bailey. Bailey, who has operated an outdoor power equipment engine repair service and is known in the community as "the mower man," will be the service manager. There also will be two part-time employees.

Riege believes that with a minimal amount of special training he can handle engine repairs. "I've never had any trouble keeping my own power mower in good running order," he said, "but I think I'll leave that end of the business to Floyd. I expect I'll be kept pretty busy with other matters, especially selling."

His determination to make a success of his business, Riege said, stems in part from the generous help he has received from various public agencies. A state government agency which aids the blind has purchased for him a Braille calculator and cash register, an electric typewriter, office furniture and special security devices, including a burglar alarm system. The SBA has guaranteed a loan from the First State Bank of North St. Paul for the purchase of inventory.

"With that kind of help and a name like Toro backing me, I don't see how I can fail," he declared.

Color Coding Reduces Shop Accidents

"As a way to help avoid accidents, take time to color code your shop according to the American Standards Association recommendations," says Dorrell Larsen, University of Idaho extension agricultural engineer."

Color codes are:

—**Red** which marks the location of fire fighting equipment and identifies emergency stops on equipment.

—**Alert Orange** which is used on parts of machines that can cut, crush, shock or otherwise injure. Examples are guards on exposed gears, cutting devices and fuse box interiors.

—**High Visibility Yellow** which indicates caution and designates hazards from bumping, falling, tripping or collision as floor area around machinery, aisles and handrails.

—**Safety Green** which is used on first aid and safety equipment in the shop.

—**Precaution Blue** which is used on all equipment controls to remind yourself to be cautious.

In addition to color coding, Larsen urges that when working in the shop, "be alert to the causes of shop accidents and the tools or operations most apt to cause mishaps."

The arms and hands are parts of the body most often injured in shop accidents. They account for 36 percent of all injuries.

The percentage of injuries to other parts of the body in shop accidents include chest, stomach, and hips, 25 percent; feet, 12; legs, 12; head, 10; and other, 5 percent.

Kerb Herbicide Price Reduced Says Rohm And Hass

Rohm and Haas Company, Philadelphia, Pa., has announced a substantial price decrease for its Kerb 50-W herbicide. This price decrease is effective August 1, 1973.

Kerb 50-W has pre- and postemergence activity on many weed species and a high degree of turfgrass safety. It was initially marketed in southern states for control of Poa *annua* (annual bluegrass) in bermudagrass turf.

For additional information on Kerb 50-W herbicide, contact E. H. Boeckel, Agricultural and Sanitary Chemicals Department, Rohm and Haas Company, Independence Mall West, Philadelphia, Pa. 19105.

—insect report—

TURF INSECTS

FALL ARMYWORM

(Spodoptera frugiperda)

ALABAMA: Infested lawns in Dallas, Mobile, Houston, Lee, Jefferson, and Colbert Counties. Conditions favorable for population explosion during next one or two generations before frost. MISSISSIPPI: Still problem in lawns in southern area. Unusually heavy in Rankin County lawns. OKLAHOMA: Heavy in Bermudagrass lawns in Pushmataha, Pottawatomie, Cotton, and Noble Counties.

BLUEGRASS WEBWORM

(Crambus Teterrellus)

MARYLAND: Larvae heavily damaged 300 acres of bluegrass sod near Glenn Dale, Prince Georges County. Treatments needed.

SOUTHERN CINCH BUG

(Blissus insularis)

MISSISSIPPI: Heavily damaged untreated St. Augustine lawns in southern counties. Dead spots evident in lawns. CALIFORNIA: Severely damaged St. Augustine grass lawns at Sacramento, Sacramento County. If untreated, pest can destroy entire planting.

HAIRY CINCH BUG

(Blissus leucopterus hirtus)

NEW HAMPSHIRE: Heavy in lawns at Manchester, Hillsboro County.

CARABID BEETLE

(Colliuris pennsylvanicus)

WEST VIRGINIA: Adults heavy in lawn damaged by sod webworms and cinch bugs at St. Albans, Kanawha County. This is a new State record.

INSECTS OF ORNAMENTALS

PSYLLID

(Calophya triozomima)

MISSOURI: Collected from fragrant sumac at Columbia, Boone County. This is a new state record.

HOLLYHOCK WEEVIL

(Apion longirostre)

NEW JERSEY: Collected from hollyhock in home planting in Essex County. This is a new county record.

TREE INSECTS

GYPSY MOTH

(Porthetria dispar)

MICHIGAN: Survey produced startling results during August. Catches confirmed in 15 counties; 1,400 moths taken in 775 traps. Center of infestation appears to be Isabella and Gratiot Counties.

SPRUCE BUDWORM

(Choristoneura fumiferana)

PENNSYLVANIA: Defoliation of hemlock heavy over about 300 acres in Mifflin County during early sumer; heavy over 200 acres in Snyder County. Defoliation noted over wider area this year, but percent defoliation less than in 1972. Very little tree mortality noted. Surveys showed some browning or dead needles on most all hemlocks in northern half of Clearfield County. However, hemlocks appear to have withstood damage very well.

ELM LEAF BEETLE

(Pyrrhalta luteola)

KANSAS: Some second-generation adults aggregating at overwintering sites in Riley County. No third-generation eggs noted on Siberian elm leaves. UTAH: Injury to elm foliage common in parts of Salt Lake, Weber, Davis, Emery, and Washington Counties. Damage about normal.

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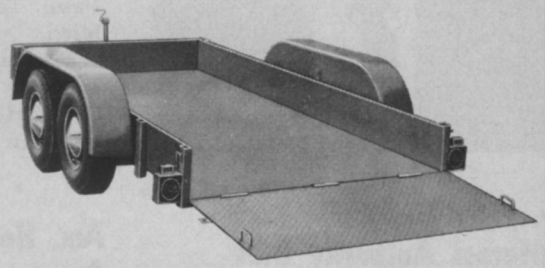
for easy, roll-aboard loading



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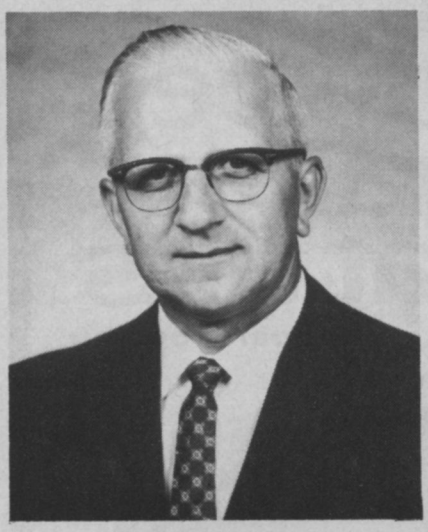

Dr. Felix V. Juska Turfgrass Authority Dies

Dr. Felix V. Juska, 59, one of the country's leading authorities on lawn grass, died at Holy Cross Hospital Oct. 25 after a heart attack.

Dr. Juska, associated with the development of turfgrass retired from the Turfgrass Laboratory at the Beltsville Agricultural Research Center on June 31.

He was a native of Chicago and attended school in Hart, Mich. Subsequently, he taught vocational school in Fremont, Mich.

After serving in the European Theater during World War II, he entered Michigan State University where he earned his bachelor's, mas ter's and doctoral degrees.

He took over leadership of the Turfgrass Laboratory at Beltsville, in 1953.

Dr. Juska was author or co-author of some 85 technical publications on turfgrass management, culture and improvement. He also was responsible for publishing a number of leaflets on the care of home lawns. He served as co-editor of "Turfgrass Science," a monograph published by the American Society of Agronomy in 1969.

He spoke at many turfgrass conferences and appeared at regional programs sponsored by the Golf Course Superintendents Association. He also organized as biennial field day at Beltsville to acquaint specialists with research progress.

Dr. Juska received an Outstanding Performance Award from the Department of Agriculture in 1959 and was named Man of the Year in Turfgrass Research for 1966 by the Mid-Atlantic Golf Course Superintendents Association. He took an active part in the affairs on the American Society of Agronomy, the Crop Science Society of America, and the Weed Science Society of American.

In 1966, he was named a fellow in the American Society of Agronomy for accomplishments in turfgrass research. He received the Borden Dairy and Phi Kappa Phi Awards at Michigan State University.

Dr. Juska leaves his wife Verna, and two brothers, Charles, of El Paso, Texas, and Tony, of Hart, Mich.

The family requests that expressions of sympathy be in the form of contributions to the Adelphi Presbyterian Church.

*Reprinted in part from the Washington Star-News.

Am. Horticultural Society Announces 1973 Awards

The American Horticultural Society has announced the 1973 AHS Award Winners at the organization's 28th Annual Congress.

Dr. Louis C. Chadwick, Professor Emeritus, division of floriculture and ornamental horticulture at Ohio State University, was named winner of the Liberty Hyde Bailey Medal.

The Award is the highest honor that is given in the field of American Horticulture.

In making the announcement, Dr. David G. Leach AHS president, noted that "Dr. Chadwick has done more for the nursery and arboriculture industries than probably any other individual. He has cast such a great wholesome influence on the lives of so many teachers, students, nurserymen, and arborists, that it is impossible to measure. Dr. Chadwick has constantly strived for excellence and quality in ornamental woody plants, and his work has shown a marked effect on nursery plant materials and industry in general."

Chadwick ("Chad") played a lead role in bringing the International Shade Tree into its present world prominence. He also re-established the Plant Propagators Society in 1950, and was instrumental in bringing it into its present prominent position. An outstanding teacher, Chadwick has lectured to many horticultural groups throughout the United States and the world on plant material and arboriculture. He is recognized as world authority in these areas. He is considered the world's leading authority on taxus and helped to eliminate much of the confusion in this genus. The taxus collection at Wooster, Ohio is a partial example of his work.

Other winners were: Mrs. Edith Rosenwald Stern, New Orleans, Amateur Citation; Professor Carl S. Gerlach, Michigan State University, posthumously awarded the Teaching Citation; Dr. Raymond C. Allen, director of Kingwood Center, Mansfield, Ohio, the Professional Citation; William Flemer, III, president of Princeton Nurseries, the Commercial Citation; and Dr. James A. Foret, department of plant industry and general agriculture, University of Southwestern Louisiana, the Scientific Citation.

Stretch Short Fertilizer Supply By Efficient Use

Indications point to short supplies of both nitrogen and phosphate fertilizers by the spring of 1974, says Hunter Follett, extension agronomist at Ohio State University.

Potash, the other major element in commercial fertilizers, should be available in ample supply if enough railroad cars are on hand to provide transportation, he says.

Some of the factors responsible for the tight supply-demand balance of nitrogen and phosphate fertilizers are:

—62 million acres of set-aside cropland were released by USDA in 1973, and about 25 million acres of this cropland was planted to crops with applications of fertilizers. Much of the remaining set-aside acreage will eventually be planted this year.

—A strong foreign demand and price differential for fertilizer has developed because of world demand and devaluation of the dollar, which discounts our fertilizer about 20 percent to many countries. Phase IV has kept the price of fertilizer in check but has allowed many tons of product to go on the export market at $25 to $40 a ton more than it would have brought on the domestic market.

—A curtailment of delivery of natural gas to ammonia producers will mean some reduction in nitrogen fertilizer production.

—Capacity to produce phosphoric acid, used to make ammonium phosphate and concentrated superphosphate, is below present demand. Additional capacity is scheduled to start producing in 1974 or 1975.

Order fertilizer early and make use of any storage you have. The idea is not to hoard fertilizer that you don't need in 1974 but to let your fertilizer suppliers know your needs and get delivery when transportation is available.

meeting dates

University of Georgia Turfgrass Short Course, 4th annual GGCSA, Center for Continuing Education, Univ. of Ga., Nov. 12-13.

American Society of Agronomy, Las Vegas, Nev., Nov. 12-15.

Colorado Crop Protection Institute, 3rd annual, Colorado State University, Fort Collins, Colo., Nov. 14-15.

New Jersey Federation of Shade Tree Commissions, annual meeting, Haddon Hall Hotel, Atlantic City, N.J., Nov. 17-19.

North Central Weed Control Conference, annual meeting, Sheraton-Jefferson Hotel, St. Louis, Mo., Dec. 4-6.

National Agricultural Aviation Association, 7th annual conference, Diplomat Hotel, Hollywood, Fla., Dec. 5-8.

Western Association of Nurserymen, trade show and 84th annual meeting, Plaza Inn, Kansas City, Mo., Jan. 6-8.

Tennessee Turfgrass Association, annual conference, Roger Millers King of the Road Motor Inn, Nashville, Tenn., Jan. 7-8.

Mid-Atlantic Golf Course Superintendents Association, 45th annual conference, Sheraton-Lanham Beltway Convention Center, 8500 Annapolis Road, New Carrolton, Md., Jan. 7-8.

Northeast Weed Science Society, annual meeting, Holiday Inn, 18th & Market St., Philadelphia, Pa., Jan. 8-10.

Kansas State Shade Tree Conference and Kansas Arborist's Association, annual meeting, Student Union, Kansas State University, Manhattan, Kans., Jan. 8-9.

Michigan State University-Michigan Pesticide Association, weed workshop, MSU campus, East Lansing, Mich., Jan. 9-10.

New York State Arborist Association, annual convention, Raleigh Hotel, So. Fallsburg, N.Y., Jan. 13-16.

Michigan Turfgrass Conference, 44th annual, Kellogg Center, Michigan State University, East Lansing, Mich., Jan. 15-16.

New Hampshire Turf Seminar, Sheraton Wayfarer Motor Inn, Bedford, N.H., Jan. 17-18.

California Weed Conference, Woodlake Inn, Sacramento, Calif., Jan. 21-23.

University of Tennessee, Winter Short Course in Turf Management, University of Tennessee Plant Sciences Building, Knoxville, Tenn., Jan. 21-25.

Southern Weed Science Society, Sheraton Biltmore Hotel, Atlanta, Ga., Jan. 22-24.

Rocky Mountain Regional Turfgrass Conference, 20th annual, Colorado State University, Fort Collins, Colo., Jan. 24-25.

Ohio Chapter, International Shade Tree Conference, annual meeting, Sheraton Columbus Hotel, Columbus, Ohio, Jan. 27-28.

Associated Landscape Contractors of America, 12th annual meeting, Hilton Palacio Del Rio, San Antonio, Tex., Jan. 28-Feb. 1.

Lawn and Utility Turf Management, Three-Day Turf Course, Rutgers University, New Brunswick, N.J., Jan. 28-30.

Penn State Turfgrass Conference, Keller Conference Center, Campus, University Park, Pa., Jan. 28-Feb. 1.

Illinois Commercial Arborists Association, winter seminar, Sheraton-O'Hare Motor Inn, Rosemont, Ill., Jan. 29.

Virginia Turfgrass Conference, Sheraton Motor Inn, Fredricksburg, Va., Jan. 29-30.

Northern California Turfgrass & Environmental Landscape Exposition, 10th annual, San Mateo County Fairgrounds, San Mateo, Calif., Jan. 30-31.

Golf and Fine Turf, Three-Day Turf Course, Rutgers University, New Brunswick, N.J., Jan. 30-Feb. 1.

Nebraska Aviation Trades Association, agricultural seminar, Norfolk, Nebr., Feb. 5-8.

Midwestern Chapter, International Shade Tree Conference, annual meeting, Stouffer's River Front Inn, St. Louis, Mo., Feb. 5-7.

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Senate Finance Committee Hears AAN Testimony

Sidney B. Hutton, Jr., The Conard-Pyle Co., West Grove, Pa., recently offered testimony before the Senate Finance Committee. On behalf of the American Association of Nurserymen and the Mailorder Association of Nurserymen, he supported a bill (S. 1245) proposed jointly by Senators Charles McC. Mathias (R-Md.) and Abraham A. Ribicoff (D-Conn.) designed "to regulate and foster commerce among the states by providing a system for the taxation of interstate commerce."

Currently, businesses are required to pay a number of state taxes in states where they do business, but do not own property or have a place of business. The Mathias-Ribicoff bill, if adopted, would increase uniformity in the rules concerning the major areas of taxing jurisdiction, taxability and tax accounting, and would greatly reduce the burden of tax compliance for both large and small business.

According to Hutton, the burden of keeping records and filing forms fall most heavily on the small business which cannot afford a staff of accountants and lawyers to cope with a multiplicity of differing state laws.

"The smaller a firm is, the more expensive it is to comply per dollar of sales," says Hutton, "because most mailorder nursery firms do business in a great many states. Thus, the small firm is penalized by the present multiplicity of different systems, and the large firm realizes an 'economy of scale' that has nothing to do with efficiency or quality of production or service to the consumer.

"Although the plants we sell are widely distributed in all states, and grow well and live for consumers all over the country," he continued, "they can be produced most efficiently only in certain areas of the country. Non-uniform and burdensome state taxation of interstate commerce can seriously restrict the free flow of these commodities in interstate commerce without any greater revenue to the states than could be achieved from a uniform, easy-to-comply-with system."

According to Hutton's testimony, this legislation is desirable from the standpoint of any business which operates or sells in more than one state, but especially from the standpoint of small business. At the same time, the resulting increase in compliance will also be in the interests of the states — an increase which will surely take place because simplification and uniformity of our tax laws will make compliance more practicable.

Hutton also spoke in favor of the permanent retention of income tax rules that protect a business from income taxation in states where they have no place of busi- "These provisions are especially important to the many nurserymen who sell primarily at wholesale for delivery across a state line in a state wheer they have no place of business," he explains. "We favor the retention and broadening of these rules so that a business can clearly determine its income tax obligations in advance for all states, based on a uniform apportionment formula such as the one proposed in the Mathias-Ribicoff bill."

The committee has not yet reported to the Senate on the bill, but is expected to do so in the near future.

Wage And Benefits Survey Completed By ALCA

The Associated Landscape Contractors of America have published the results of a Wage and Benefits Survey of the Landscape Construction Industry conducted this past summer.

Results were broken down according to geographic area and the presence or absence of unions. Typical wage statistics were gathered from ALCA members for supervisors, working foremen, skilled, semi-skilled, and unskilled employees, and highs, lows, and averages are reported.

Information on overtime rates paid shows that a clear trend in union bargaining is the demand for overtime scales above the statutory minimum of time-and-a-half over-forty. In some firms this took the form of overtime after eight hours in any single day; in others, double time over forty hours a week, and on weekends.

Information on paid holidays and paid vacations given employees was collected, showing differing trends for different categories of employees.

Pension and profit sharing plans were reviewed, and the trends in non-union and union firms have been identified. Accident and health insurance plans were found in a majority of all firms reporting, and in every union firm.

Incentive and bonus plans reported varied widely from firm to firm, and typical provisions were noted.

Copies of the survey results, including the complete wage statistics breakdown by region, are available at $10.00 per copy for non-members, $3.00 for ALCA members. For more details circle (719) on the reply card.

National Disease Detection Program Urged By Scientists

Support for a national plant disease detection program has been urged by some of the nation's leading scientists.

In it's ultimate form, the program would pool the knowledge and detection systems of the nation's plant pathologists and help them stop diseases before they get out of hand.

The program was outlined as an official effort of the American Phytopathological Society (APS). The APS committee for plant disease detection discussed the potential program at the 2nd International Congress of Plant Pathology.

Dr. Einar Palm, University of Missouri-Columbia plant pathologist, explained that part of the plan will be a disease monitoring system.

Palm, who is chairman of the APS section of detector plots," led the effort to establish monitoring systems for corn, soybeans and cotton in Missouri.

As part of the plant disease detection program, scientists hope to develop "integrated" controls — a combination of genetic, biological, cultural and chemical controls.

"By knowing more about a disease and sharing the information," said Palm, "it should be possible to economically minimize disease injury without hurting the environment."

Metro Equipment Company Named Ackley Distributor

Metro Equipment Company, West Conshohoken, has been named distributor for Ackley hydraulic tools for Pennsylvania and Southern New Jersey. The announcement was made by Bob Brandon of Metro Equipment Company and Harold DePue, Ackley's vice-president of marketing.

Product displays and descriptive information on the Ackley product line are available at Metro Equipment Company, 1000 New De Haven Street, West Conshohocken, Pennsylvania 19428.

ARBORIST SHOP TALK

By Hank Harvey Jr.

Liberty, South Carolina

Good public relations is an essential part of every business, especially service-related ones. Many tree service operators fail to take full advantage of the opportunities they have to get good public exposure and reap the sweet rewards.

When was the last time you read something complimentary about *your* organization in your own local newspaper? Is the general public in your community familiar with and aware of who you are? If not, here is how you can make them aware of you, and what to do so that the next time they think "Tree Service" they will think of you, automatically.

The "lecture circuit" is one of the best ways to establish the fact that you know what you're doing when it comes to trees. You prepare a couple of ten or fifteen minute talks on "Preserving Your Trees," "Trees and Ecology," or any other current tree topic and make it known to local clubs and organizations that you are available for free any evening to deliver the talks.

An effort? Yes, it is.

But it pays off handsomely in new jobs and you will be getting the kind of customers you want.

Besides you will most likely have little or no competition on the lecture circuit.

Another way to effect the same thing is to offer a Tree Expert Column to local newspapers for free with the condition that you can use the closing line, "For more information about your trees you may call the Tree Expert at (your phone)."

This is an easy deal because all you do is write about 100 words each week about anything concerning trees . . . what is a girdling root, why trees need feeding, what is Dutch Elm Disease etc. Once again you establish yourself as the local tree expert in the eyes of hundreds, perhaps thousands, of potential customers.

One more way you can gain good will and status for your business in the eyes of the public is to take advantage of any and every newsworthy situation.

Rescuing a cat from a tree wtih your bucket truck? Call the newspaper and tell them what's going on and they'll probably send a photographer, because that's news!

Take pictures of anything interesting (black and white is best and even a good poloroid picture will make it in most local newspapers) and make sure they show your equipment in use preferably with your company name showing somewhere. Make them available to the local media immediately.

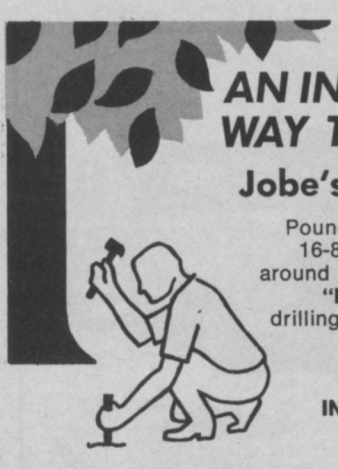
Whenever a new tree disease is rampant or even a seasonal insect attack about to approach let the newspapers and radio stations know about it. Be sure to tell them what they can do for prevention or treatment, especially if it is something you can do for them, professionally.

One clever tree man in a large Eastern city did his bit for ecology by "recycling" hundreds of Christmas Trees with his brush chipper and giving the mulch away free. Estimated cost to him (on a slow winter day) about $40-$50.00 at the most. But he got a big one-half page write-up in a two million circulation newspaper plus great good-will with all the local municipalities and no telling how many new private customers. All in the name of Good-Will.

Dr. Richard C. Back (r) of Union Carbide Corporation is the recipient of the 10th annual L.S. Hitchner Service Award. Charles O. O'Brien (l) of the National Agricultural Chemicals Association (NACA) makes the award. Dr. Back is Washington representative on agricultural chemicals for Union Carbide. He is also chairman of the regulatory committee within NACA.

EDITORIAL *(from page 6)*

vide controversy throughout the winter. EPA will certainly take considerable time to analyze data collected this year. The best course of action is continued pressure by the political heavies and strong support through organizations such as the International Pesticide Applicators Association. It could well be that the pine tussock moth may be the Achilles heel of EPA.



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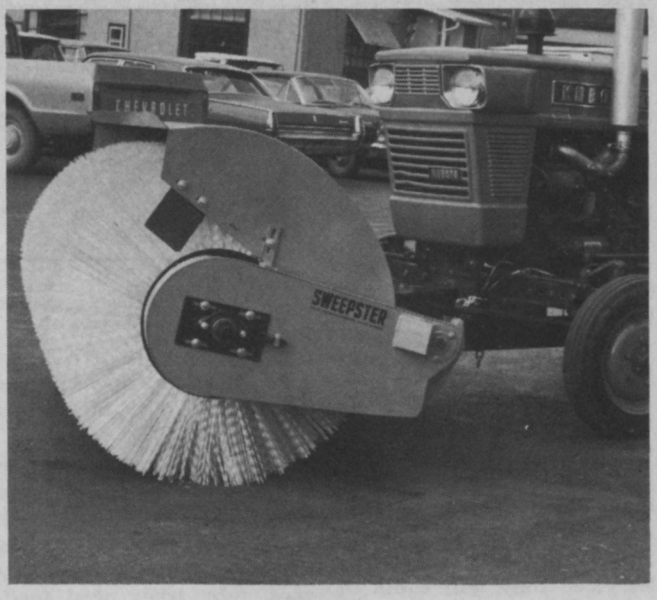
BIG MAC: Hydra-Mac of Texas, Arlington, Tex.

Compact, heavy duty skid steer, this loader eliminates all belts, chains and clutches in the drive system. It receives its power from full hydrastatic gear drive that controls bucket and boom with one lever. Speed and direction are handled with another lever. There are no foot controls required. Bucket and boom controls make possible the leveling of the bucket as it goes up or down. Operator has infinite direction control, including full pivot within the loader's 119 inch length with skid steering. Speed ranges from 0 to 7½ miles per hour. Weight is 5000 pounds. For more details, circle (701) on the reply card.

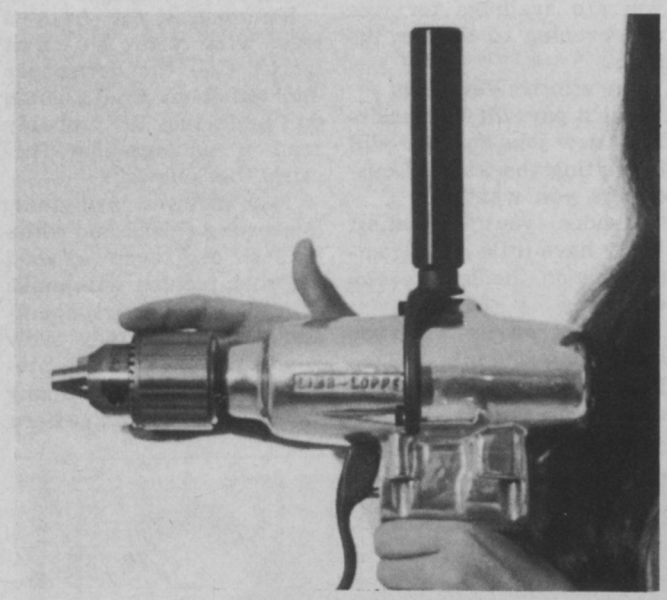


POWER BROOM FOR MEDIUM TRACTORS: Jenkins Equipment Co., Dexter, Mich.

Sweepster power brooms are now available for the Kubota line of tractors. All three tractors: L-175, L-210, L-260 have brooms available for front and rear mounting. Model B-60 broom features a 5 foot wide by 26 inch diameter brush driven from the rear PTO. It sweeps at a fixed angle of 30 degrees to the right. Model HF features 6 foot wide by 32 inch diameter brush that sweeps at a fixed angle of 30 degrees to the right. Polypropylene sectional type brush is standard with ½ poly — ½ wire available at no extra cost. For more details, circle (702) on the reply card.

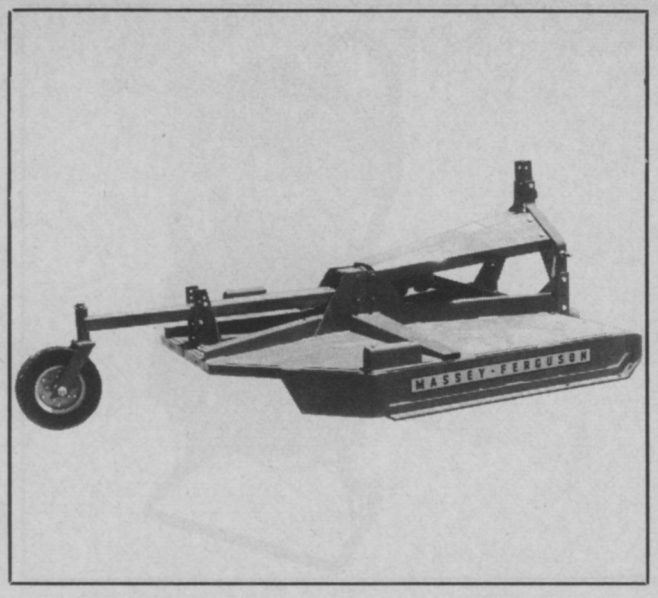
SELF DUMPING BOX: Mathews Company, Crystal Lake, Ill.

Quick, easy, low cost conversion of any domestic pickup truck to a self-unloading dump truck is now possible. The 16 gauge galvanized steel box unit is 48½ inches wide by 19½ inches deep. Two models are available. Model D-96 (96 inches long) is for ¾ ton trucks and D-72 (72 inches long) is for ½ ton short wheel base trucks. Box slides in and out of truck bed on ball bearing rollers which are mounted on two steel channels bolted to the floor of the truck. For more details, circle (703) on the reply card.



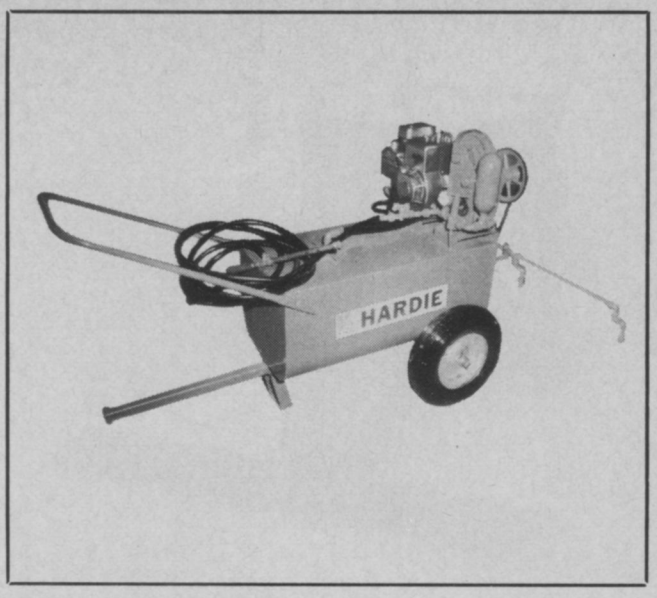
POWERBORE: Limb-Lopper Co., Santa Fe Springs, Calif.

Similar in design to the Powerench, this hydraulic drill features light weight and perfect balance for ease of handling, trigger speed control, easy to reach reversing valve that manufacturer says won't clog or leak, and smooth, quiet operation. Models are available for either open or closed systems. Chuck capacity is ½ inch and weight of drill is 7 pounds. The hydraulic operation requires 4 to 6 gpm at 1500 to 2000 psi; its output at 5 gpm is 1100 rpms. For more details, circle (704) on the reply card.



ROTARY CUTTER: Massey-Ferguson Inc., Des Moines, Ia.

Two new heavy rotary cutters are now available for heavy jobs such as brush clearing and other heavy residue cutting. The five and six foot models MF 61 and 71 are also desirable for highway and rental work. Safety chains are available as an accessory. For more details, circle (705) on the reply card.

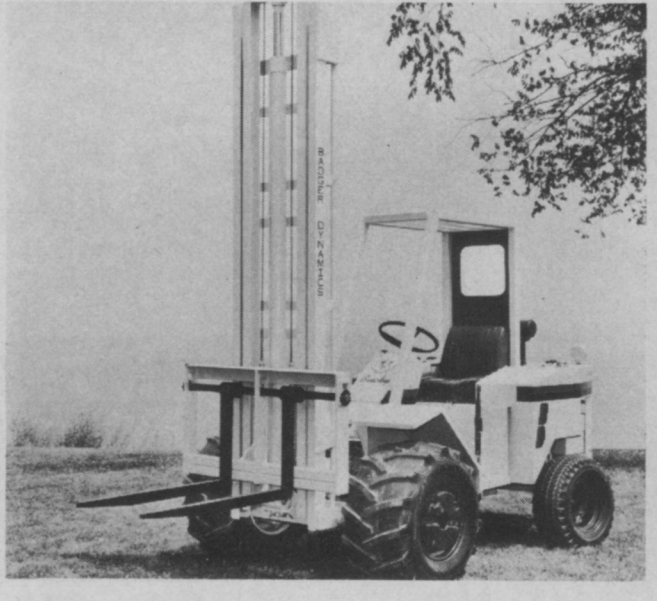


TOWN & COUNTRY SPRAYER: Lockwood Corporation, Gering, Nebr.

Standard equipment on this sprayer designed for small garden tractors or manual operation includes an air-cooled gas engine, positive displacement pump that generates pressures from 50-300 psi, and a mechanical agitator for thorough mixing of chemicals. Tank is available in 15 and 30 gallon capacities. It's galvanized. Optional equipment includes a four-nozzle weed boom, 25 feet of high pressure hoze, universal tractor hitch and/or push-pull handle. For more details, circle (706) on the reply card.

ECONOMY TRACTOR: Engineering Products Co., Waukesha, Wisc.

A longer, wider hood shields the sealed beam headlights enclosed in the sturdy grill, a heavy wrap-around steel safety guard to protect the front PTO and a new 3-gallon gas tank characterize the new look for this tractor line. Three models are available. Options include hydraulic equipment life, rear hitch, and tandem transmission for a wide range of operating speeds. A full line of attachments is also available. For more details, circle (707) on the reply card.

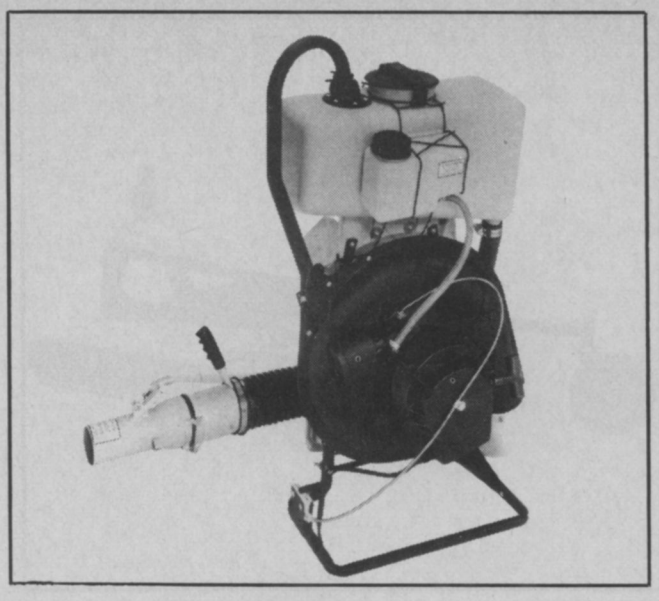


COMPACT FORKLIFT: Badger Dynamics Inc., Port Washington, Wisc.

Designed for a variety of applications, this unit solves material handling problems in many areas of the Green Industry. Roller type mast reaches 14 feet in height. Also available with lo-profile mast. Forklift is powered by a 25 hp air-cooled engine and can handle loads up to 2500 pounds. Powertrain runs a three-speed hydrostatic drive, power steering and hydrostatic brakes. Overall dimensions are 8 feet 3 inches in length, 4 feet 10 inches in width and 6 feet 8 inches to the top of its overhead guard. For more details, circle (708) on the reply card.

MOUNTAIN GOAT: Kinco Manufacturing Co., St. Paul, Minn.

Model KMG-38 powered sickle bar features simple, sturdy, construction for ease of handling and safety. Wide-track pneumatic tires assure maximum stability on hills. Individual wheel clutches allow straight-on power. Sickle bar cuts over rocks and other objects without danger of throwing them. Unit is powered by a 3½ hp engine. For more details, circle (709) on the reply card.



BACKPACK APPLICATOR: Curtis Dyna-Products Corporation, Westfield, Ind.

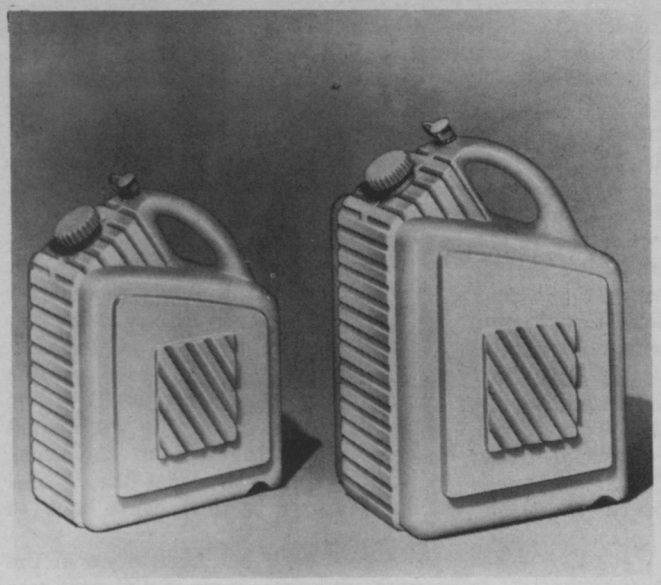
The multi-purpose model BP-145 is the most powerful and versatile chemical dispensing applicator made, according to the manufacturer. It is capable of dispensing mist, dust or granules, without removing parts or installing other different parts. This 27 pound applicator easily applies a wet spray or a dry dust to trees, shrubs, yards, parks or golf courses. Maker says that both horizontal and vertical blowing distances far surpass anything else in use. For more details, circle (710) on the reply card.

THE BIG ONE: Vermeer Manufacturing Co., Pella, Ia.

This unit was designed and built for heavy-duty service and mainline trenching. Digs 6 feet deep (8 feet optional); 24 inches wide. Unique, all-hydraulic crumber folds back for straight down starts. Unit moves on spring-loaded, heavy-duty, cross-country tracks mounted on 7 track rollers with 1½ inch sealed bearings. Big Ford industrial engine (GMC diesel optional) and smooth hydraulic system provide evenly applied lugging power under all trenching conditions. For more details, circle (711) on the reply card.

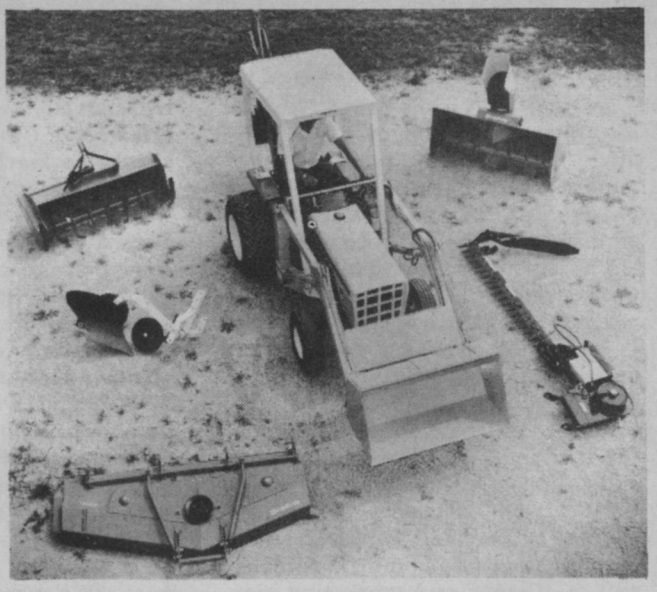
STUMP KING: Municipal & Industrial Service Equipment Div., FMC Corporation, Pomona, Calif.

This stump remover features compact dual cutting wheels. Reach is 64 inches through a unique swivel mounted articulating cutting head. Removes stumps to a depth of 27 inches below ground level. Lateral movement of the head on a semicircular traversex rail is 147 inches. This permits operator to get at clustered stumps without relocating. Unit is equipped with swing-out operator controls for maximum safety. Features an exclusive built-in water spray system, enabling the head to keep cool at all times and minimize chip dust. For more details, circle (712) on the reply card.



PLASTIC UTILITY CAN: Gotham Chicago Corp., Chicago, Ill.

Cans such as these literally have a thousand uses. Made of almost indestructible, rigid, inert plastic material, they won't rust, chip or dent. Removable protruding pour spout and flip covered air vent. Designed with large comfortable handle, strategically placed for balance when in use. Available in popular avocado and in three sizes, 2 gallon, 3½ gallon and 5½ gallon capacity. For more details, circle (713) on the reply card.

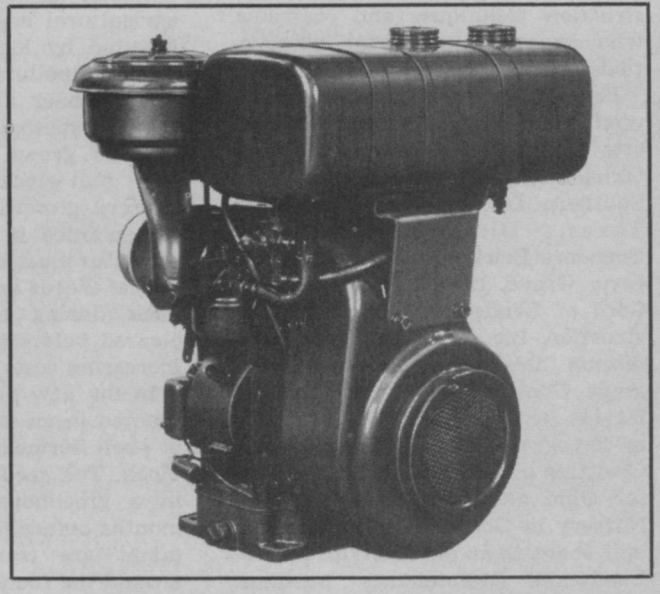


COMPLETE ATTACHMENT LINE: Simplicity Manufacturing Co., Inc., Milwaukee, Wisc.

There are 13 attachments available for this 19½ hp tractor. Included are mowers, plows, tiller, snow thrower and front end loader. There are 9 accessories, and many allied attachments including a back hoe. There are 9 field-installed options, including the new roll over protection structure. A unique three-speed range transaxle, coupled to a hydrostatic transmission, permits infinite control of speed while retaining full engine power. For more details, circle (714) on the reply card.

BOB-CAT: Wisconsin Marine, Inc., Lake Mills, Wisc.

Three heavy-duty commercial lawn mowers are now in production. Model 16-61 is largest with two hydrostatic transmissions. Separate levers control operations for each drive wheel. Because each rear drive wheel operates independently, zero turning radius is possible for greater maneuverability. Other features include three full-floating blades for a 61 inch swath, a 16 hp engine, fingertip blade height control and a fail-safe control lock. Unit is considered ideal for professional groundskeepers, park and golf superintendents and others. For more details, circle (715) on the reply card.



DUAL FUEL ENGINES: Kohler International Ltd., Kohler, Wisc.

A new line of air-cooled, four-stroke engines that start on gasoline and switch to kerosene operation is being introduced to the world market. Four engines ranging in horsepower from 2.6 to 7.9 Hp are available. Engines have dual compartment fuel tanks. Three-way valve lets operator switch quickly from gas to kerosene or to shut off both fuels. For more details, circle (716) on the reply card.

Assoc. Landscape Contractors Slate Convention In Jan.

IMPACT '74, the 12th Annual Meeting and Exhibit of the Associated Landscape Contractors of America, will be held at the Hilton Palacio Del Rio, San Antonio, Texas, January 28 through February 1.

The five day conclave is structured around the various forces impacting the landscaping profession — examples of which are consumerism, unionism, specialization, and diversification.

Highlighting the meeting, according to Ronald Ahlman of Lawrence and Ahlman Landscaping, Dundee, Ill. program chairman, will be an address by Dr. Walt Lewis, environmental scientist from the University of Illinois, and marketing consultant Welde Cox, from a Philadelphia enterprise bearing his name.

Additionally, ALCA's Annual Trade Exhibit, featuring the best of the industry's suppliers and equipment manufacturers, affords delegates an excellent chance to do some comparative shopping.

The opening day of the convention will feature an address: "Creating ECOlibrium" by Dr. Walter H. Lewis of the University of Illinois, an acknowledged authority on construction techniques and contracts, who has some pertinent observations on the economy of ecology.

Panel discussions are also scheduled. Tom Roberts of Thomas Roberts Associates, in Oklahoma City Oklahoma, George Hederhorst of Southern Landscaping in Houston, Texas, Dick Brickman of Theodore Brickman & Associates in Long Grove, Illinois, and Carl McCord of Landscape Design & Construction, Inc. in Dallas, Texas will discuss "Design Services and Landscape Contracting." Then Clarence Davids of Clarence Davids & Sons in Evergreen, Park, Illinois, James Christian of Tri-County Turf in Foster, Ohio, and Terry Jones of Jones Nursery in Grand Rapids, Michigan will share their observations on the Landscape Maintenance business.

An irrigation panel will be conducted by Austin Miller of Sprinkler Irrigation Association in Royal Oak, Michigan, Brad Tolson of Siesta Irrigation & Supply Co. in Tucson, Arizona, and Wally Gunderson's of Gunderson's Inc., in Rapid City, South Dakota.

"Marketing Your Landscape Contracting Business" with Welde Cox of Welde Cox & Associates in Philadelphia, Pennsylvania, starts off the business of Thursday, the 31st. Originating with the problems faced by architects, Cox has branched out into other marketing problem areas, such as Landscape Contracting, and will advise delegates on how aggressively professional services should be marketed.

The final day of the conference, will be devoted to talks from Owen Peters, president elect of the American Society of Landscape Architects, David Spencer of Spencer & Spencer in Springfield, Illinois, and Norman Gray of Transit Seeding in Mansfield, Massachusetts. The afternoon begins with a Bonding/Banking Workshop with Tom Frost, Chairman of Frost National Bank, in San Antonio, Texas, and ends with a Board of Directors.

Extruded Soil Blocks Automate Tree Planting

One of the biggest problems of reforesting bare land is the two to three year wait from the time new trees are needed until seedlings are available for planting. A University of Idaho scientist is developing equipment to automate a process enabling trees to be transplanted within four months after a seed is planted.

Walter L. Moden, Jr., associate agricultural engineer, said land deforested by logging, forest fires or mine gas pollutants can be replanted much sooner and at less cost with the new method.

Trees grown in the nursery as bare root stock need two years of nursery growth before they can be transplanted in the forest. Planting expenses must be planned far in advance. Weeds and brush which grow back during that time must be cleared before trees can be planted, increasing costs.

In the new process, a tree seed is planted in an extruded soil container—soil formed into a rectangular block. The seeded container is kept in a greenhouse for two to four months before the seedling and container are transplanted. The soil around the roots of the seedling prevents planting shock and root damage, Moden said.

Because the soil containers have a greater bulk density than the surrounding soil, moisture is retained more readily. Moisture is not lost to the surrounding soil as is the case when peat moss is used around the roots, he said.

Moden explained the equipment he is developing will take a special mixture of soil materials, press it into blocks one inch square and four inches long, insert seeds and place seeded blocks in a tray for germination and growth in the greenhouse.

Extrusion of the blocks or soil containers is now done by a machine the scientist developed in 1971, but seeding and placing containers in germination trays must be done by hand. Two to three people can extrude and seed about 2,000 containers per day. The automated process, once completed, should produce over 10,000 containers per day using the same number of people, Moden said.

He estimated the cost of the blocks by the process now used to be 1.3 cents each. The automated process would reduce the cost. Nursery-grown trees at the U of I nursery cost 2 to 4 cents each to produce.

Some work has been done in the past with containers of different materials and construction, but none has been totally successful, Moden said. Many have plastic shells which do not decompose and will restrict root development.

The extrusion machine forms soil blocks stable enough to withstand greenhouse watering and handling during transplanting without an outer covering. A hole for the plant taproot to follow is formed during the extrusion process.

Another machine being developed will plant containers with their seedlings at set intervals, the U of I scientist noted. Only one person will be required to drive the tractor. Presently seedlings must be planted by hand. The planting machine can go anywhere a small crawler tractor can pull it.

He noted future project work will include revegetating highway cuts. The process should enable cuts to be planted with grasses or low shrubs which will reduce erosion and improve the appearance of the cuts.

Paper Mill Wastes Makes Landfill Sandwich

The Earl of Sandwich, the renown English nobleman who discovered the sandwich, would be proud of Michigan State University's Dr. Orlando B. Andersland.

Dr. Andersland, a professor of civil and sanitary engineering, has taken the good Earl's idea and transformed waste and sludge from paper mills into useful land forms. His concept of a "sandwich" is a layer of sand, a layer of sludge and a load of natural soil on top to weight the layers down. Since nobody likes a soggy sandwich, Andersland figured that the sand layer would drain the water from the sludge. The top soil

would compress the sludge to ensure such drainage.

The system has worked so well that a 25 foot sandwich shrank to 20 feet in height because of the water drainage during the first year. The area retained its stability and equilibrium through the winter snows and spring rains during the second year.

According to the professor, roughly 200 million cubic yards of paper mill sludge are produced annually, with much of it going into landfills throughout the U.S., but with no plans for later use.

He's now preparing a final report on the project for the Environmental Protection Agency, who supported the project along with he National Council of the Paper Industry for Air and Stream Improvement.

The specific design of Dr. Andersland's sand-sludge sandwich had five layers. First came a one-foot base of sand with suitable drainage arrangement, then a 10 foot layer of sludge dumped in by the truckload. On top of this was deposited another one-foot layer of sand, followed by another 10 foot layer of sludge. A final three-foot layer of natural soil capped off the sandwich.

A vertical boundry or dike of natural soil was put around the area to stabilize it until it drained and settled.

When the drainage was complete the lower layer of sludge had shrunk from 10 to 7 feet and the higher layer of sludge had shrunk from 10 to 8 feet, accounting for the total 5 feet of shrinkage in the 25 foot sandwich.

After one year, the supporting dike was removed at an almost vertical angle in order to ensure a "failure." Dr. Andersland wanted to determine whether the planned failure would lead to a general slide of the sand-sludge mass. But no further failure occurred despite snow and rain.

Dr. Andersland sees the method as useful for reclamation of paper mill waste in landfills, for incorporation in recreational terrain such as for golf courses, or sliding or ski hills. "Implications of the project for land conservation are enormous," he said.

"Gravel pits and waste areas are being filled with paper sludge which retains water because of its high organic content, so that the landfills stand useless and basically unchanged for decades. Sludge consists of water, plus solids that are about half cellulose fibers and half clay.

"Compacting the sludge according to carefully engineered procedures permits disposal of large quantities of sludge in each landfill," he said. "Compacted sludge could be removed and taken to areas ewhere lightweight fill is needed . . . Covering of a soil layer would restore the land to use."

Toro Irrigation Division To Hold East-West Meetings

The Irrigation Division of the Toro Company will hold two national distributor sales meetings early next year.

Robert E. Landesman, director of marketing for the division, said the decision was made in line with distributor preferences determined by a survey conducted by district managers.

Distributors in Colorado, Oklahoma, Texas and West Coast states will meet for three days at The Inn, Rancho Bernardo, Calif., Jan. 31-Feb. 2. Distributors from all other states will be at Innisbrook Resort & Golf Club, Tarpon Springs, Fla., Jan. 24-26.

The program for each meeting will be identical: a full day each devoted to service, product application and sales of Toro's irrigation equipment.

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Maryland Turfgrass Association Plans Sod Conference For March

Thirty-five members and guests of the Maryland Turfgrass Association met in Olney, Maryland on October 11, 1973 to conduct their regular monthly business meeting.

Association involvement in land use legislation being considered by Maryland legislators was discussed. It was decided that the Land Use Committee would attend the legislative hearing and testify before the committee to support the best interests of sod producers in the State of Maryland.

The program committee was formed for the 9th Annual Maryland Sod Conference to be held at the Adult Education Center on the University of Maryland Campus on March 7, 1974. Emory Patton, Larry Moore, James Doll, and Wallace Miller volunteered to assist program committee chairman John Hall.

The Educational portion of the meeting was presented by Lee Hellman of the entomology department of the University of Maryland. Mr. Hellman, who is a turfgrass entomologist in the Department of Entomology, discussed life cycles and methods of control for the more serious turfgrass pests. Extreme interest centered around sod webworm problems which have been severe in Maryland this year. An estimated 400-500 acres of sod has been severely damaged by sod webworm infestations in Maryland in 1973. The heavy population of sod webworm coupled with poor rain distribution in July has severely lowered the quality of sod in southern Maryland and in certain areas of the Eastern Shore.

Hellman discussed the research he is conducting on sod webworm and the fact that he has found good sod webworm control with single applications of Diazinon and Dursban. His data indicates that Sevin and chlordane did not give adequate control of sod webworm populations under the conditions of his experiment.

The next meeting of the Maryland Turfgrass Association is scheduled for November 8, 1973 and will be an election meeting. The Maryland Turfgrass Association is continuing to plan for the 1974 American Sod Producers Association Summer Show to be held in Maryland July 14-20, 1974.

College Football Squad Lays Sod In Time For Game

Seven members of the St. Mary's varsity football team, along with 23 other volunteers, took part in a record-breaking installation of 59,200 sq. ft. of bluegrass sod on the college's football field, in Moraga, Calif.

Under the supervision of Tom DeHerrera of Economy Garden Supply, San Leandro and Ken Hofmann, Hofmann Builders, installation of the playing field in the $210,000 stadium project, was begun at 7:45 a.m. and completed at 12:45 p.m. in one of the fastest jobs of this sort ever undertaken.

Eight truckloads of bluegrass sod from the Patterson growing grounds of Nunes Turfgrass, was unloaded on pallets spotted around the perimeter of the field, and a crew of volunteers started at the center of the field laying the Instant Grass and setting sprinklers into motion as each section went down.

The field, in the planning stages since 1971, will be the culmination of the dream of three former football greats from St. Mary's Dutch Conlan '26, George Canrinus '34 and Bill Fischer '32. Funds for the project have come principally from donations of cash, materials and services.

Joe Ventura, Nunes' local representative, watching the men charge across the field in record time reports he can only see one hazard to the field. "There's a little herd of cows that roam these hills. Three of them were watching the grass go down with great interest."

Two New Seed Blends Introduced By O. M. Scott

Two new seed blends for unusual environmental and functional conditions have been introduced by the Proturf division of O. M. Scott & Sons.

Transition Blend is a mixture tailored especially for the southernmost reaches of the bluegrass belt. It combines all three of Scotts' proprietary bluegrasses: Windsor, the improved Kentucky bluegrass variety; Victa, whose resistance to leafspot, stripe smut and powdery mildew was discovered in eleven years of testing; and Vantage, the newest proprietary grass which offers early spring green-up, good persistence under high temperatures and resistance to *Fusarium roseum*.

The product of this blend is a turf that is uniform, fine-textured, medium to dark green in color, with excellent sod-forming characteristics. It is low-growing and tolerant to climatic and soil variations, with a high level of resistance to a broad range of turf diseases.

Sports Turf mixes both Victoria and Windsor improved Kentucky bluegrass, for fine texture and deep green color, with Manhattan perennial ryegrass for quick, dependable establishment and rugged durability.

The resultant turf is tough yet beautiful. Responsive and resilient, it offers early green-up with color extending into late fall. Specifically developed for hard-use areas or areas with heavy foot traffic, Sports Turf performs well in both sun and light shade.

Princep For Algae Control Registered By EPA

The Environmental Protection Agency (EPA) has registered Princep 80W simazine for use in preventing the growth of most common forms of algae in large aquariums, ornamental fish ponds and fountains without harming fish or most aquaria plants.

Princep is widely used for agricultural and industrial weed control. One treatment normally lasts several weeks, depending on conditions causing algae growth.

Federal Seed Act Violations Cost Illinois Firm $1300

New Jersey secretary of agriculture Phillip Alampi has been informed by the U.S. Department of Agriculture that a court judgment of $1,300 for violations of the Federal Seed Act has ended a case against the Seaboard Seed Company, Bristol, Ill.

The case involved one shipment of mixed lawn seed made into New Jersey in 1968. The seed was picked up by a New Jersey Department of Agriculture inspector and was tested in the Department's seed laboratory. It was found to be falsely labeled as to the percentages of annual ryegrass seed, perennial ryegrass seed, tall fescue seed, other crop seeds, and the date of test. In addition, the shipment contained a cited New Jersey noxious weed seed, Bermudagrass.

Other shipments which were in violation of the Federal Seed Act had been made by the same company to Pennsylvania, Virginia and South Dakota.

The judgment against Seaboard Seed Company was issued by the U.S. District Court for the northern district of Illinois.

The Federal Seed Act is a truth-in-labeling law designed to protect consumers in the purchase of seed. In part, it requires that lawn seed be truthfully and completely labeled.

New Jersey has similar legislation, but has no legal recourse when an out-of-state firm is found to be in violation.

Northeast Severely Hurt By Gypsy Moth In 1973

Leaf-eating gypsy moth caterpillars defoliated an estimated 1,773,846 acres of woodland in nine northeastern states this summer, the U.S. Department of Agriculture (USDA) reports. This is an increase of about 400,000 acres over the 1972 defoliation.

Pennsylvania was the hardest hit northeastern state this year with approximately 856,710 defoliated acres. Other states with defoliated acres include an estimated 333,215 in Connecticut; 254,865 in New Jersey; 248,441 in New York; 43,970 in Massachusetts; 35,925 in Rhode Island; 490 in Maine; 200 in Vermont; and 30 in New Hampshire.

A single 2-inch caterpillar can eat a square foot of leaves every 24 hours.

Sprinkler Zone Control Patent Granted Tork Time

Michael Bizzoco, vice president of Tork Time Controls, Inc., has been granted a patent for the water-saving zone control feature of sprinkler controllers manufactured by Tork.

Bizzoco developed an "automatic interrupt and restart" which makes possible intermittent watering of any zone within a single sprinkling period. The Tork controller advances from section to section, up to 12 sections or zones, and while other controllers do permit for individual sprinkling programs for each zone, it is the patented feature which makes for water saving.

Water is wasted by run-off in sprinkling operations, particularly in slope or shrub sections. The intermittent feature provides watering in short bursts — as little as 2½ minutes — with rest periods so that the grounds may fully absorb all the water, and yet receive their full required watering.

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STRIPE SMUT OF TURF

(from page 12)

and can be controlled chemically only by the use of systemic fungicides. For the systemic fungicides to be effective they must be drenched into the root system immediately after application. The best results are obtained in the fall when the temperatures cool or early spring when the grass plants are dormant. Benomyl (Tersan 1991), thiophanate-methyl (Cleary's 3336), and triarimol are systemic fungicides which have effectively controlled stripe smut. However, this is not a permanent solution and repeated application will be required in subsequent years.

In addition to the destruction caused by the stripe smut fungus itself, Kentucky bluegrass varieties infected with stripe smut lose their resistance to the Helminthosporium spp. The systemic fungicides also seem to cause the Helminthosporium resistant variety to become susceptible. It is recommended that turf areas infected with stripe smut, in addition to receiving applications of systemic fungicide, also receive an application of a fungicide that will protect against Helminthosporium disease, too.

Area on right was treated with a systemic fungicide. Bluegrass plot on left is severely infected with Stripe Smut. Note straw color of infected turfgrass.

Cultural practices will aid in reducing the severity of the disease. They consist of applying minimum amounts of nitrogen (not more than 3 lbs. of total nitrogen per 1000 sq. ft. for the season) and not allowing the turf area to become dry.

In summary, stripe smut is a very destructive disease of Kentucky bluegrass. Once a plant becomes infected with the disease it will remain so for life. Varieties of Kentucky bluegrass resistant to the stripe smut races prevalant today are available, but in the future after these have been widely grown, they probably won't remain resistant as new races of stripe smut will arise. Chemical control can be obtained with the systemic fungicides although it is not permanant. Applying minimum amounts of nitrogen to stripe smut infected turfs and not permitting the infected turf areas to become dry will aid in reducing the severity of the disease. □

Landscape Ambassador Joe Shaw Tells U. S. Story Abroad

The type equipment used and methods followed by landscape contractors in the United States was described by Joseph C. Shaw, South Miami, Fla., when he, the only participating American, recently spoke to members of the British Association of Landscape Industries' annual conference in London. He also attended the Sixth Congress of Landscape Contractors in Hamburg, Germany.

Joseph C. Shaw

Shaw is head of Shaw Nursery & Landscape Co., and immediate past president of the 2000-member Florida Nurserymen and Growers Association. Particularly was the conference audience interested in his description of this, and other American trade associations. Many of the British contractors inquired about membership in the FNGA; some said they planned to attend the 1974 Florida convention.

He told his surprised listeners that competing American landscape contractors work together in staging training programs for their employees; that they are also urged to attend special schools pertaining to their work, as well as staff meetings.

In turn, Shaw was surprised to hear that the British landscape contractors *charge* their employees for attending similar events.

Another policy differing from that in the United States is their manner of competitive bidding. The high and low bidders are automatically excluded, leaving the selection to come from the in-between bidders.

Shaw was invited to speak to the group again in 1974.

In Hamburg Germany, he admits being impressed with the convention facilities where talks are automatically translated into six languages, enabling an individual to hear a speech in his own country's language.

Shaw concludes that European landscape contractors are several years behind those in the U. S. in establishing standards and creating a professional image, both individually and industrywise.

This could be, he said, because for years landscape work was regarded as merely "gardening." However, attempts are now being made to upgrade the status of the landscape contractor-profession.

Two particularly outstanding events during the trip were the 140-acre flower show at Hamburg and the Tivoli Gardens in Denmark. Also, he and Mrs. Shaw visited the French Riviera where, he said, folks take great pride in the use of flowers and landscape plants. However, high rise apartment buildings already are replacing many greenhouses.

At one French nursery Shaw found an inventory of many plants peculiar to Florida and California, and even in some northern portions of the

U.S., i. e., various varieties of palms, Norfolk Island pines, roses, citrus trees, Mimosa and Magnolia.

He was told in France that landscape contractors are required to pay a tax for having personnel attend annual training courses and, this is payable whether or not the employees participate.

The landscaping, or lack of it, in northern Italy was particularly depressing after having seen the specimen work along the French Riviera, according to this landscape contractor.

Two problems European contractors face, which are familiar ones in this country; working with landscape architects and taking jobs where not enough money is allocated to complete the work as originally planned.

The continent should be good pickings for plastic and metal container manufacturers. Mostly, only clay and wooden containers are used in the nursery and landscaping industries he said.

Use of Tandex For Highways Projected Upwards

New registrations and application techniques for Karbutilate-type weed and brush killing formulations can be expected to make these recently developed herbicidal materials particularly effective as cost-saving maintenance tools for highway maintenance programs.

This was the prediction of Frank Chestnut, manager of Niagara Chemical's industrial chemicals department, in a recent discussion of new developments in the weed control field.

He cited development programs, both completed and underway, for Tandex herbicide (which contains karbutilate as the active ingredient) that have demonstrated its ability to give extended control of many kinds of weeds, grasses, vines, brush, and difficult-to-kill woody species with a single treatment.

In field programs the compound has provided effective vegetation control along road shoulders and ditch banks, under guard rails and signs, and around light standards and bridge abutments. Uncontrolled weed growth in these areas can obstruct driver visibility, create fire hazards, hinder maintenance crews, and trap moisture that can corrode fences and other facilities.

Among the specific Tandex programs described by the Niagara executive are:

Field studies aimed at extending the number of weed and brush species for which the compound is granted registration. A higher-analysis granular form of the material was recently cleared for use in areas where scrub oak, manzanita, and chamise are problems.

Hand shaker packaging designed for applying the herbicide in localized areas to eradicate weeds, nuisance grasses and brush. Such spot treatments have been found especially useful in controlling vegetation that persists in growing where mowers cannot reach.

Use of basal (spot) treatments and pre-determined grid patterns to eliminate undesirable brush and vegetation without affecting the surrounding understory.

Researchers report that the karbutilate-based Tandex material may be unusually suited for such purposes. Upon application the compound is characterized by a high degree of vertical percolation (downward but not lateral movement in the ground) which minimizes effects on adjacent areas and results in very effective control of deeper-rooted species.

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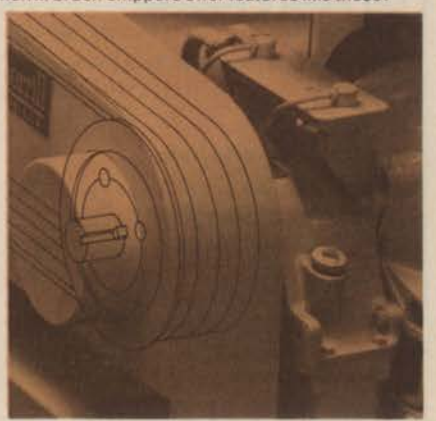

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Northwest NGF Seminar Labelled Success

The first seminar on public golf course operations held in the Pacific Northwest was a success.

The seminar, sponsored by the National Golf Foundation and held at West Seattle Municipal Golf Course, attracted over 45 persons from Oregon, Washington, Idaho and Montana. Those attending represented both municipal and privately owned daily fee course operations.

Joe Much, northwest representative of the National Golf Foundation organized a program which included nearly all aspects of public golf course operations and development. The speakers included Jerry Claussen of the NGF on organization and financing, Ronald Fream, Los Gatos, California, on golf architecture and construction, Donald Hogan of Seattle, on irrigation engineering, Duane Orullian, municipal golf manager from Pocatello, Idaho on public course management and maintenance. Others were Henry Land, Jr., Seattle city golf superintendent on course maintenance, Seattle attorney Carl A. Johnson on taxation and open space legislation, Stanley Francis on federal funds for recreation and Dick Haskell, Seattle director on golf and Ronald Fream on remodeling for public play at West Seattle golf course.

Two case history studies were also presented covering Lake Padden golf course and the Tumwater Valley golf course.

According to Joe Much, the 1974 program will be even more inclusive than that just concluded. The 1974 program will be held in the Portland, Oregon area at a site to be announced.

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Mich. Turfgrass Field Day Draws Over 400 Turfmen

The annual Michigan Turfgrass Field Day was held at the Michigan State University Field Research Laboratory, East Lansing, on September 13, 1973. The event was sponsored by the department of crop and soil sciences at M.S.U. and the Michigan Turfgrass Foundation.

More than 420 professional turfmen from throughout Michigan attended. Numerous current turfgrass research projects were discussed: cultivar trials, blend and mixture studies, a turfgrass wear investigation, shade and disease studies, and numerous fertility investigations.

Toro Consumer Div. Slates Dealer Service Schools

The Toro Company is helping its U.S. network of distributors of consumer products to organize and staff a series of more than 100 dealer service schools to be held between Dec. 10 and April 1.

Ross E. Nelson, Toro's manager of consumer service, said the schools are expected to have the largest attendance in the company's history. Program content, he added, will be far more comprehensive than for any similar training school activity in the past.

In addition to extensive presentations featuring product improvements, school sessions will cover:

- the Consumer Product Safety Act and the Occupational Safety and Health Act as they apply to Toro dealers,
- service dealer procedures for maintaining financial records, determining shop labor rates and methods to increase service profits,
- a case study designed to involve dealers in simulated customer relations problems in typical day-to-day encounters,
- recommended service procedures for all Toro consumer products.

In preparation for the schools, Nelson reported, Toro will sponsor a series of regional seminars for distributor service management personnel.

These are scheduled for Nov. 19-20, Carson Inn., Itasca, Ill.; Nov. 26-27, Airport Marina, Burlingame, Calif.; Nov. 27-28, Ramada Inn, Atlanta, and Dec. 5-6, Hilton Inn, Syracuse, N.Y.

West Virginia Scientists To Study DED

An evaluation of resistant elm clones to new strains of the Dutch elm diesease (DED) fungus will be made by scientists of the agricultural experiment station of West Virginia University, Morgantown, under a cooperative agreement with the U.S. Department of Agriculture (USDA).

SOUTHERN WEED SCIENCE SOCIETY

Come to Atlanta in January to participate in the 27th annual meeting of the Southern Weed Science Society. Speakers will discuss all aspects of weed science. Interpretation of the Federal Environmental Pesticide Control Act as it affects applicators will be a highlight of the meeting. In addition, sections will be devoted to agronomic crops, aquatic weeds and special weed problems, new developments in the industry and weed control in horticultural crops.

You are invited to attend . . .

Southern Weed Science Society

Sheraton Biltmore Hotel

Atlanta, Ga.

January 22-24, 1974

— classifieds —

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

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GENERAL FOREMAN for tree service company in Rochester, N.Y. Experienced, active and imaginative person to organize and supervise 8-12 tree service crews (approx. 85 men). MUST HAVE proven background to lead an inspire men to work efficiently. Knowledge of tree work helpful, but not essential. Year-round salaried position. Company vehicle furnished. Hospital and pension benefits. Reply to: Mr. Robert G. Hooper, Monroe Tree and Landscape, Inc., 225 Ballantyne Rd., Rochester, N.Y. 14623. Phone 716 436-2900.

LANDSCAPE AND MAINTEnance Manager — Great opportunity for the man who likes to be his own boss. Ability to work with public and personnel is important. Must have had considerable experience or education in landscaping or horticulture. Excellent future for the right person. Grow with the company. Starting salary $10,400.00 plus commission paid on profits earned. Paid hospitalization and vacations. Write giving complete resume to Personnel Office, Jasso Tree Service, Inc., 9160 Eston Rd., Clarkston, Michigan 48016.

WASHINGTON TREE SERVICE, Inc. in Seattle has openings for 2 experienced climbers-trimmers. If you have background and experience to do quality work and are a sober, responsible person, this could be the opportunity you have been seeking. Year 'round job, excellent benefits including profit sharing plan. Relocation allowance to qualified persons. Write or phone: Lou Vaughn, Washington Tree Service, Inc., 20057 Ballinger Road, N.E., Seattle, Washington 98155. Phone 206 362-9100.

YEAR ROUND position open caring for all types of flowers, trees, shrubs on large recreational complex. Complete knowledge of ornamentals, perennials, annuals, pruning, spraying, arranging a must. Salary open, liberal fringe benefits. Send resume with references to Patrick Lucas, Estate Maintenance Company, Federal Hill Road, Brewster, New York 10509.

WANTED — Self starter with sales ability — combined with a horticultural background — to contact and open new accounts in the sales of Agricultural Chemicals and Equipment to professional turf areas in Suffolk County. If you are the person to fill this position send resume, including salary desired, to: Box 105, Weeds Trees & Turf, 9800 Detroit Avenue, Cleveland, Ohio 44102.

DISTRIBUTORS for D. J. Andrews, Inc. stump cutter teeth, pockets and bolts. Best wholesale and retail price in U.S.A. Add to this exclusive area, local advertising at our expense, etc., and you have our story. D. J. Andrews, Inc., 17 Silver St., Rochester, N.Y. 14611. Call 716 235-1230, or 716 436-1515.

SALESMAN WANTED to cover Connecticut and New York selling shade tree chemicals, agricultural chemicals. Write Box 106, Weeds Trees & Turf, 9800 Detroit Avenue, Cleveland, Ohio 44102.

PARKS ASSISTANT, Waterford, Michigan. $12,300 to $13,550. 3 years experience and degree in parks or related field. Send resume to Waterford Personnel, 7336 Highland Road, Pontiac, Michigan 48054.

GOLF COURSE SUPERINTENDent position open for experienced person. Send resume to M. W. Brandmeyer, St. Andrews Golf and Country Club, Ocean Springs, Mississippi 39564 or call 601 875-7771.

SEEDS

SOD QUALITY MERION SEED for discriminating growers. Also Fylking, Delta, Park, Newport, Nugget and Pennstar bluegrasses as well as fine fescues. We will custom mix to your specifications. Michigan State Seed Company, Grand Ledge, Michigan 48837. Phone 517 627-2164.

CROWNVETCH SEED: Penngift and Chemung varieties. Direct all inquiries to: Walter C. Mehlenbacher, Castile, New York 14427. Phone 716 493-2553.

ALL VARIETIES, straight or mixed to specifications, bluegrasses, fescues, bents, others. Markell Seeds, P.O. Box 3397, Green Bay, Wisconsin 54303. Phone 414 437-0851.

FOR SALE

SPECIAL CLEARANCE SALE— Real bargain in lawn equipment! Six sets only of heavy duty 3-gang lawn and turf rollers—perfect for smoothing lawns and large turf areas. Full-floating action of each unit follows ground shapes and contours. Rugged and long lasting, these 3-gang tandem rollers are built to stringent military specifications — USAF K14649. At front and rear of the extra heavy frame are self-cleaning bar scrapers. The roller units with water ballast drums each 28" long, 24" in diameter, come complete with frame and tractor hitch. It covers a 6'8" wide area in a single swath. Call Claude Sheldon, 815-672-2169 today for a special clearance price. The Flink Company, Streator, Illinois 61364.

DOUBLE EDGE sod cutter blades. Will fit any Ryan sod cutter. Works like double edge razor blade. Cuts much more sod per blade. Made to bolt on both ways. $24.00 plus postage. New automatic sod loaders for direct loading to pallets, trucks or trailers. No workers needed on ground. Both products developed and designed by Hadfield. Write or call Glen Hadfield, 4643 Sherwood, Oxford, Michigan 48051. Phone 313 628-2000.

FOR SALE: Complete tree Service Company, located on West Coast, gross $200,000.00 per year. Year round work. New spray rig, 3-2 ton dump trucks, 3-4 wheel drive pickups, 2 winch trucks, 3 chippers. Several other pieces of equipment. Box 180, Weeds Trees & Turf, 9800 Detroit Avenue, Cleveland, Ohio 44102.

CHAIN SAW CHAIN, bars, sprockets, sharpening equipment, saw parts and accessories. Save to 40%. Professional quality, fully guaranteed. World's largest mail order supplier of this equipment. Free catalog. Write Zip-Penn, Box 43073-A68, Middletown, Ky. 40243.

ARPS stump cutter teeth, top quality and best price in U.S.A., D. J. Andrews, Inc., 17 Silver St., Rochester, New York 14611. Call 716 235-1230.

MISCELLANEOUS

TREE APPRAISALS, SURVEYS, loss evaluations and expert consultation services. For names of members of the American Society of Consulting Arborists, Inc., throughout the country, contact: Executive Director ASCA, 12 Lakeview Ave., Milltown, New Jersey 08850.

USED EQUIPMENT

RECONDITIONED brush chippers, sprayers, log splitters, stump routers, bucket trucks. Let us know your needs. Equipment Sales Company, 5620 Old Sunrise Highway, Massapequa, New York 11758. Phone 516 799-7619.

RYAN heavy duty sod cutter with sulky roller. Excellent condition, $1,500.00. Was used to cut eight acres much sod. R. Ward, 5100 Laubert Road, Atwater, Ohio 44201. Phone 216 947-2335.

trimmings

CLAUDE W. GIFFORD, USDA director of communications, has appointed Ray Brush, administrator of the American Association of Nurserymen, to the 1974 Yearbook of Agriculture Committee. The yearbook, which is a collector's item for some, draws attention in articles and chapters to significant changes and technologies taking place throughout the nation. The 1974 yearbook will be released in late 1974. It will give practical and research-based advice on how to buy everything from lawn seed to food to wood to clothing. Of primary interest to readers of WEEDS TREES AND TURF will be the thoroughness and credibility of articles and whether authors are selected who represent the subject and the Green Industry.

HOW LONG WILL BURLAP LAST on a B & B planting? The New Jersey Federation of Shade Tree Commissions decided to find out. They studied the rate of breakdown in the soil of a variety of burlaps and containers used for B & B (balled and burlapped) and containerized plants. Untreated burlap deteriorated in 6 months. In the same amount of time Format pots had just begun to break down at the base and at the soil line. Burlap treated with 0.2 percent copper napthenate lasted 18 months. Treated Format pots began to deteriorate at the base and rim after 1½ years. Same was true for Herculite pots. Their deterioration at 18 months was at the base and along the seam. Green plastic burlap remained completely intact for the full 30 months of the study. Item to note: there was ample root penetration from all types of burlap including plastic. Plastic did not result in any noticeable effect on moisture differences between the sod and the soil ball.

WHAT IS ECOLOGY? Briefly, ecology is the study of the relationship of an animal to its environment. It attempts to understand how animals, plants, organisms, climate, soil, air and water fit together and affect one another.

LIKE THE CIRCUIT RIDER the gypsy moth keeps popping in for a devastating lunch in new areas. Latest victim states to find his tale-tale presence is Illinois and Indiana. Leo G. K. Iverson, deputy administrator for USDA's Animal and Plant Health Inspection Service (APHIS) says that the gypsy moths probably didn't invade the area, but were brought into the states by recreational vehicles. It might not be a bad idea to install a free drive-throught vehicle wash stand at the border of potentially endangered states.

EARL L. BUTZ, Secretary of Agriculture, said in addressing the Society of American Foresters, recently, one of the dangers of overreaction to the environmental-economic balance is pointed out in the effort to control the tussock moth. "The dying forests are reminders that we were a little precipitous in banning the only effective control method before we had found effective substitutes," he said. ". . . I was shocked by the devastation. No one can tell me that either nature or man is better off for this insect epidemic. . . . I agree whole-heartedly that we must step up research and development of alternatives to persistent pesticides. But at the same time, contingency approval for use of DDT appears to be the only course to seek for this next year. Effective and safe substitutes will be found. But we may not have trees on which to use these substitutes if the epidemic isn't stopped.

"I am ready to lend my full support to seeking aproval from the Environmental Protection Agency for making DDT available in the event we need it," he said.

BIOBEGRADABLE DDT has been patented by the University of Illinois Foundation, according to one report. Scientists have been able to alter one of the phenyl rings of the DDT molecule and cause biodegradability. No period of time for biodegradation has been mentioned. However, it was reported that the effectiveness of the Bio DDT is the same as regular DDT in laboratory tests.

POLITICIANS GOING FOR THE POT has been leaked from sources on Capital Hill. Seems that the National Botanical Garden has been supplying plants for congressional offices for a number of years. Sources say that what with the need for something green, demand has risen from 6000 potted plants in 1968 to over 9000 pots for politicans this year.

LOOKING FOR A GIMMICK? The National Bank of Commerce in San Antonio, Tex. has one that works. They gave evergreens to persons opening a new account, or depositing $50 or more to an existing savings account. Total evergreens given in the six week promotion was 2200. Now that tradin' green for evergreen.

No Place To Exit?

Locking and/or chaining of exit doors in public buildings, theatres, sports arenas, and schools for "security" or other reasons is a serious violation, says the National Safety Council. Persons responsible for such violations are not only blamed, but subject to heavy fines and imprisonment.

Here's what the National Fire Protection Association Manual says about exit doors:

5–2131. An exit door shall be so arranged as to be readily opened from the side from which egress (exit) to be made at all times when the building served thereby is occupied. Locks, if provided, shall not require the use of a key for operation from the inside of the building.

5–2132. A latch or other fastening device on an exit door shall be provided with a knob, handle, panic bar, or other simple type of releasing device, the method of operation of which is obvious, even in darkness.

5–2162. Required panic hardware shall not be equipped with any locking or dogging device, set screw, or other arrangement which can be used to prevent the release of the latch when pressure is applied to the bar.

5–2171. No lock, padlock, hasp, bar, chain, or other installed or maintained at any time on, or in connection with any door on which panic hardware is required by this Code if such device prevents, or is intended to prevent, the free use of the door for purposes of egress (exit).

Your Invitation . . .

To GCSAA's 45th Annual Conference and Show in

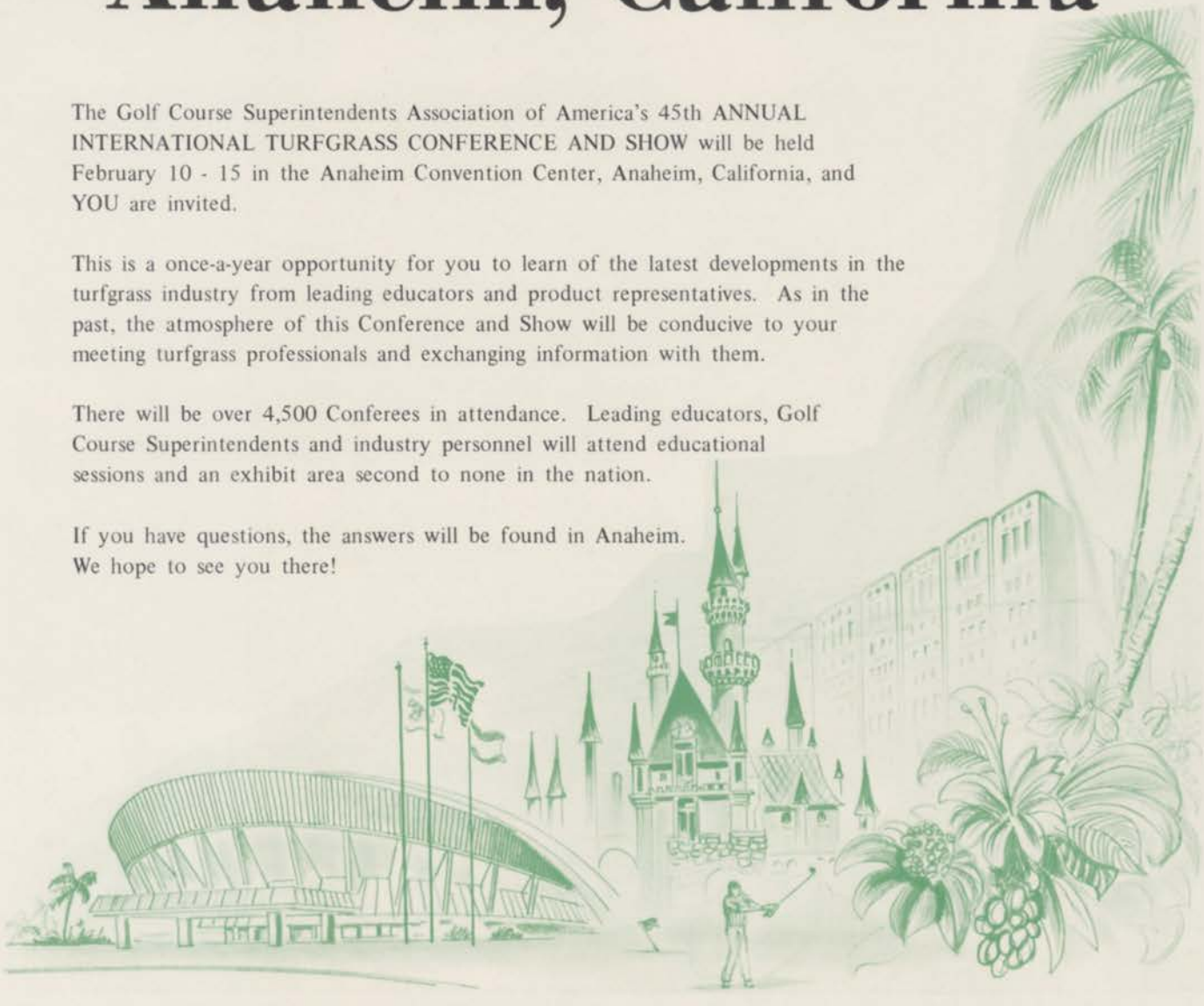
Anaheim, California

The Golf Course Superintendents Association of America's 45th ANNUAL INTERNATIONAL TURFGRASS CONFERENCE AND SHOW will be held February 10 - 15 in the Anaheim Convention Center, Anaheim, California, and YOU are invited.

This is a once-a-year opportunity for you to learn of the latest developments in the turfgrass industry from leading educators and product representatives. As in the past, the atmosphere of this Conference and Show will be conducive to your meeting turfgrass professionals and exchanging information with them.

There will be over 4,500 Conferees in attendance. Leading educators, Golf Course Superintendents and industry personnel will attend educational sessions and an exhibit area second to none in the nation.

If you have questions, the answers will be found in Anaheim. We hope to see you there!



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GCSAA Members $15 • Nonmembers $35 • Ladies $15

Send in for your registration form now. By registering in advance you will save time at the registration desk in Anaheim, where a distinctive badge and your other conference materials will be awaiting your arrival.

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